2023 TSRC Sustainability Report





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countermeasures



2023 is the 50th anniversary of TSRC corporation. Over the years, our corporation has been developed with steady management and technical innovation. Through our production bases around the world, we have provided products that are closely related to people's lives. **In the future, TSRC is committed to business growth and the environmental protection.**

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About the Report

This is the 2023 sustainability report of TSRC and discloses TSRC's environmental (E), social (S), governance (G) and sustainability plans and implementation. The report has reported in accordance with the GRI Standards for the period from January 1, 2023 to December 31, 2023. The report 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 Taskforce on Climate-related Financial Disclosures (TCFD). The report has been reviewed by the CEO and the Executive Leadership Team responsible for the promotion and implementation of ESG strategies. It is published with the approval of the Board of Directors.

Scope of Reporting

This report covers the economic, social, governance, and environmental practices and the result of TSRC Corporation (including the global headquarters, Kaohsiung Factory, Gangshan Factory) and six subsidiaries with substantial operation (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.I). The reporting boundary is consistent with all 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 the 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 Industries	Rerefers to TSRC (Nantong) Industries Ltd.
TSRC-UBE	Rerefers to TSRC-UBE (Nantong) Chemical Industrial Co., Ltd.
Shanghai Industries	Rerefers to TSRC (Shanghai) Industries Ltd.
TSRC Corporation	Refers to TSRC Corporation located in Taiwan, including the global headquarters 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, and TSRC (Lux.) Corporation S.à.r.I. The terms TSRC, TSRC Group, the Company, and the entire group are used interchangeably in this report.

Reporting Period and Frequency

This report covers the period from January 1, 2023 to December 31, 2023, which is consistent with the reporting period of the Company's financial statements. TSRC publishes a sustainability report once a year. This report is published in June 2024 and available on TSRC's website.

Restatements of Information

The data disclosed in Chapter 2 Environmental (including GHG emissions, indirect energy consumption, waste, air pollutants) have been revised due to changes in calculation basis or coefficients. The detailed causes and implications are indicated in the note at the bottom of each chart and table.

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 the approval of the Board of Directors.

The company engaged SGS Taiwan to provide assurance for the report in accordance with the GRI Standards at AA1000 Type 2 moderate level. The SASB indicators and TCFD information disclosed by TSRC are obtained assurance by SGS. All statements are provided in the 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 in the Appendix.

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

Contact

Welcome any advice/suggestion or inquiries for TSRC ESG plans or implementations.

ESG Section, TSRC Corporation



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Letter from the CEO

In 2023, the world grappled with economic, climate, and geopolitical changes, resulting that Inflationary pressures, price competition, and extreme weather events posed challenges to the chemical industry and companies' adaptability. As a global leader in specialty chemical materials, TSRC remains steadfast in its commitment to innovation and operational resilience. TSRC champions ESG action plans aimed at enhancing process energy efficiency, expanding the utilization of renewable energy, and reducing steam consumption and product carbon footprint to bolster core competitiveness and fulfill our pledge to safeguard the environment and human well-being.

TSRC's key environmental, social and governance initiatives and annual achievements in 2023 are as follows:



In order to meet TSRC's objectives of carbon reduction and renewable energy, several strategic initiatives were undertaken in 2023. These included obtaining ISO 14064-1 third-party verification for the Group's GHG emissions inventory and ISO 14067 verification for the carbon footprint of 19 key products, augmenting the use of low-carbon fuels, installing solar power generation equipment, and procuring renewable energy. These measures aimed at reducing both direct and indirect carbon emissions, yielding results that surpassed the Group's initial target of a 5% reduction in GHG emissions compared to the base year. At the same time, by enhancing wastewater treatment facilities and increasing utilization of wastewater recycling, the Group achieved a wastewater recycling rate of 25% and a reclaimed water use rate of 22%.

Social

TSRC places significant emphasis on talent development and the safety and well-being of its employees, aiming for enhancement of sustainable capabilities and a reduction in occupational accidents over the long term. In 2023, TSRC conducted ESG basic education and training sessions for our employees and tailored to individual functional roles to enhance talent development. To strengthen organizational cohesion, experienced managers and colleagues were invited to share their experiences and methodologies at the sharing events focused on TSRC's core values of Integrity, Innovation, Teamwork, Accountability, and Excellence. Meanwhile, we expanded initiatives encompassing environmental conservation, scientific education promotion, and community support to uphold social responsibility and contribute positively to local communities.



To bolster product competitiveness, the TSRC Kaohsiung Dashe Factory has obtained ISCC Plus sustainable product certification, ensuring customers have access to products crafted from renewable materials. Proactively responding to evolving external conditions and extreme weather events, TSRC regularly assesses the impact of material climate risks, strengthens information security protection measures, and sustains operational resilience. By the end of 2023, over 95% of TSRC Group suppliers had signed the TSRC Group Supplier Code of Conduct and TSRC has enhanced sustainable supplier management.

As TSRC celebrates its 50th year milestone it remains steadfast in its commitment to a "people-oriented" approach, recognizing employees as invaluable assets and the bedrock of the company's competitiveness. In 2023, a diverse array of activities encompassing environmental protection, recycling initiatives, humanistic engagement, scientific education, and artistic innovation were organized. All employees were invited to participate events including beach clean-ups, creative photos and essay contests, charitable chemistry camps, and family days. Through these endeavors, we reflected on TSRC's journey alongside our employees, collectively embraced environmental stewardship, and promoted the connection between chemistry and human life through charity activities.

Looking ahead, enhancing operational resilience and environmental preservation stands as paramount importance for the company. TSRC is committed to leveraging cutting-edge innovative technologies to develop new products and expand new businesses for bolstering operational growth. Additionally, TSRC aims to collaborate with business partners across the value chain to foster symbiotic relationships with the environment and society, continuing to strive for sustainable development.

CEO of TSRC Joseph Chai

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(Indu					ity Report Award er grade	Sustainability Report Award		6~20%	2023 Winner	
ESC	Scope 1+2 gas emissi decreased in 2023, co base year	greenhouse ons by 8.3% mpared to the	Reclaimed w rate reached 22% in 20	ater use 023	Wastewater re rate reached 25% in 202	cycling 23	Outs and S TSRC Safe pr • TSRC • Nanto produ Enviror • Rated	tanding Achievemen Safety Performance -UBE, Nantong Industries roduction was honored as a benchmark un ong Industries was honored as action safety target management in ment I as "Green level" in the environme	t for Environment s and Shen Hua Chemi it for group management an excellent unit in the asses responsibility system ntal protection credit rating	cal —
Social	People The total re incident rate employees 0.34 in	ecordable te (TRIR) of was 2023	2,016 er participated i physical and health lecture	mployees n the mental es in 2023	468 partici participated in chemistry edu activities in 20	pants the cation 23	Recog Shen contra Kaohs Safe pr Awar confir	gnized as "Odorless Enterprise" by Hua Chemical was selected in th of exemption enterprises by Nanto siung Factory roduction ded by Kaohsiung City Labor In and space operations	Nantong Ecological Environme ne first batch of air pollution e ong Ecological Environment Bu nspection Office for safety la	ent Bureau mergency reau abeling of
Gover	20 patents in 2023, an of accumu patents read	were granted d the number lative approved ches 449	R&D expendi NT\$ 397 in 2023	ture reached million	Local procurer accounts for 78% of tota procurement s	nent al pent in	Enviror • Award Opera • Serve Coaliti Regio	the space operations and the National Environmental In- tion Award as the coordinator of the Regio tion in 2023 and awarded the fir nal Environmental Incident Prevent	ncident Prevention Coalition's l onal Environmental Incident F est place in the Southern Dist	Deepening Prevention rict of the

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In 2023, TSRC proudly celebrated its 50th anniversary, a testament to decades of unwavering dedication and pragmatic approach that have driven its achievements. With a growing global presence, TSRC prioritizes respect for local cultures and conducts business with utmost sincerity, addressing challenges methodically and with determination.

To celebrate this significant milestone, TSRC appreciated all the invaluable contributions of its employees and the support of stakeholders. Throughout the year, TSRC held a series of events intertwining the principles of environmental stewardship and circular economy, while also deepening its influence in science education and designing a souvenir with an emblem of the company's pragmatic, steadfast, and pioneering spirit. As part of the celebrations, TSRC extended a heartfelt invitation to all colleagues to Family Day activities to reflect on the journey of the past 50 years and witness TSRC's sustainable values.

50th Anniversary Events

The story of TSRC

The magic of the photographs captures preserved bygone eras and the stories take us back to the glorious moments of TSRC.

50, 15

Since 1973, TSRC has experienced 50 years of ups and downs. It is a great honor for me to accompany TSRC for 15 years. In the 10th year of TSRC's (Nantong), the blue and green logo on my arm had become the most familiar mark. We went through the financial crisis in 2008 and the tough times during the pandemic. In the past 15 years, we have been together. With the norm "One team, One Goal", TSRC has being the best of Asia for 50 years. I sincerely wish TSRC a bright future, keeping the duty and forging ahead.



In April 2018, the Synthetic Rubber Division held a strategic planning meeting. During the meeting, an internal soccer game sparked the fire of everyone's passion and fostered our cohesion.

Passion

"The Ball Game"

Starting with "No Choice", the "excitement" throughout the competition made us "long for more".

The interesting and thrilling ball game organized by the Synthetic Rubber Division left us with nothing but unforgettable memories.



Glory

Since the brightest met 50 years ago,

the ray of glory had shone between us. Remembering the longest promise we've kept in every dusk till dawn, the beautiful memories remain no matter how

time flies.

In the night of the sleepless, the steels are silent as always, just you and me, gazing into eternity.





3

TSRC's 50th anniversary – the Coastal Cleanup Project

Do you recall when the seashore became strewn with trash rather than shells? This year, TSRC invited employees, their families, and friends to join in cleaning up Gongliao and Cijin beaches. Let's work together to preserve the beauty of our island's coastlines for the next generation!

Gongliao, New Taipei City





Family Day of TSRC – Creative Picnic

TSRC hosted a grand picnic event centered around the theme of "Sustainability," extending invitations to all colleagues and their families in Taipei and Kaohsiung for a day of relaxation and enjoyment. The festivities were further enhanced by captivating performances from talented artists and diverse interest groups, creating a memorable experience for all attendees.



4

Chemical Camp for Teenagers from Shanlin

TSRC mobilized R&D experts and volunteers to introduce young students from Shanlin District (Kaohsiung) to the mysterious world of chemistry. Through engaging hands-on activities, TSRC guided these teenagers to explore how chemistry enriches our lives, fostering their curiosity and expanding their scientific horizons.



For more information, please visit our website https://www.tsrc.com.tw/tw/







TSRC recognizes that the remarkable operational success relies on the collective efforts of employees. To embed the core values and deepen the new generation employees' understanding of our decades-long journey, TSRC invited key people from different functional units to 5 Sharing and Exchange activities which were designed with the core values to share insights on value creation and growth promotion based on their expertise and experience.

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Teamwork

Cooperation with

4 partners from the

Department

WMS TROUBLESHOOTING

Supply Planning Unit and the IT

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TSRC Sharing and Exchange Highlights



Integrity

When faced to contradictions, the core value behind every choice

Chief Executive Officer, Supervisor of Human Resources & Management Department

From the perspective of corporate management and culture, this topic concluded the importance of integrity for self-protection and stability of corporate operations, especially when faced with dilemmas.





Innovation

Innovation in competition: transformation from follower to market leader

2 senior R&D supervisors with more than 30 years of experience, and 3 junior R&D supervisors

Based on the transformation challenges, the senior R&D supervisors shared how they faced the internal and external obstacles and how to lead the R&D team be independent and dominance in the market. Simultaneously, the junior supervisors explained how they applied innovative thinking to both product development and process technologies.



Key roles for cross-departmental collaboration were invited in this session. To precisely control the change of production, sales and inventory for cost reduction and profit growth, the speakers shared how to jointly develop the WMS (Warehouse Management System). They also pointed out the importance of coordination, integration, and problem solving in the collaboration.





Excellence

TSRC seniors talk about excellence

4 senior executives with experiences in quality, operation and plant management

Based on the characteristics (pragmatism and integrity) of TSRC's employees, this topic concluded the importance of passion and commitment in daily work. To maintain excellence, TSRC employees should not only take care of themselves and their colleagues, but also motivate positive effects through enthusiasm.



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Accountability

50 years of inheritance, let TSRC create another 50 years for sustainability

2 executives with experiences in business management and market development

Starting from the definition of "accountability", speakers shared their experiences of taking responsibility for their tasks and embedding this attitude in their daily work. In order to improve TSRC's reputation and competitiveness, every employee should be responsible at every moment during work.



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ESG Stories Pursuit of a circular economy and better life

According to the United Nations, approximately 400 million tons of plastic waste is generated worldwide each year, with projections estimating this figure to soar to 1.1 billion tons by 2050 if current trends persist. As a leading elastomer manufacturer, TSRC is committed to delivering recyclable and sustainable polymer technologies to customers. With a focus on environmental benefits, TSRC continues to innovate its product line, exemplified by the development of HSBC and blended ingredients.

TSRC's SEBS products are renowned for their high quality and recyclability, featuring outstanding compatibility and resistance with polypropylene, even in sub-zero temperatures. This distinctive blend distinguishes TSRC's specialty chemical offerings in the market.

In line with its dedication to the circular economy, TSRC strives to strike a balance between superior product quality and a diminished carbon footprint. Through the fusion of recyclable materials with elastomers, TSRC has effectively curbed material degradation during multiple recycling cycles. In addition, by enhancing materials' impact resistance and flexibility, TSRC increases the usability of specific recyclable materials, encouraging customers and end-users to opt for recyclable materials and circumvent the high carbon footprint associated with virgin materials. TSRC's SEBS products play a crucial role in strengthening the durability of recycled polypropylene (rPP), expanding the application of recycled polypropylene in industries such as automotive and sports equipment. In 2023, TSRC achieved significant sales of SEBS products, totaling 1,318 tons.

With a longstanding commitment to sustainability and innovation, TSRC continues to prioritize the reduction of carbon footprint across its product lifecycle through cutting-edge technologies aimed at enhancing reusability and exploring alternative plastic usage. By doing so, TSRC not only contributes to improving the quality of human life but also mitigates the adverse environmental impacts of human activities.





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ESG Stories Embed safety into daily routines and culture

TSRC has consistently prioritized occupational safety as the cornerstone of stable operations, recognizing the establishment and cultivation of a safety culture as essential steps towards achieving its zero incidents and zero disasters goals. Since 2005, TSRC has implemented various measures, including life-saving protocols, operational safety observations, and sharing safety experiences, to foster a robust TSRC Safety Culture. Beginning in 2021, TSRC has quarterly enhanced its safety policies. Additionally, during quarterly internal HSE meetings, TSRC not only shares HSE performance but also underscores the importance of ongoing safety enhancement through cross-regional communication, fostering the exchange of best practices among different plants. These exchanges facilitate continuous improvement and cultivate a safety culture centered on achieving "zero incidents" and "zero disasters."



Safety leadership

Supervisors' determination, commitment, and leadership are primary requirements in building safety culture. In 2023, TSRC launched the Safety Leadership Promotion Project, which required supervisors at all levels to attend various safety training sessions and lead their group during the sessions. In addition, the establishment of a regular communication channel created a bilateral platform for both supervisors and employees to raise questions and provide feedback. Supervisors maintain their safety awareness and guide employees to form a safe behavior model that supports TSRC Safety Culture.

Strengthening the Safety Culture

In 2023, TSRC initiated the Safety Culture Promotion Project, which focused on strengthening and verifying existing measures to ensure that the sound safety awareness and habits have been embedded.

Annual Global HSE Award

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In order to make safety as a "movement for all", the reward mechanism is crucial to motivate employees to maintain their safety awareness. In addition to providing HSE incentives at each site, TSRC has established the "Annual Global HSE Award" since 2022 to encourage positive internal competition. The commemorative awards are given to each employee whose site has achieved the best annual HSE performance.



Building a safety culture requires time and dedication, with no shortcuts available. Through the implementation of the safety culture promotion project, TSRC's commitment to safety attitude and habits has significantly strengthened its safety culture. In 2023, TSRC achieved a Total Recordable Incident Rate (TRIR) of 0.34, surpassing the original annual target (TRIR ≤ 0.36) and marking a 2.9% decrease from the previous year. This achievement reflects the solid establishment of safety awareness across TSRC globally.

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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 the headquarter and production sites. Based on global ESG development trends, the United Nations Sustainable Development Goals (SDGs), and benchmarking ESG strategic planning cases and practices from the chemical and related industries, the Committee came up with TSRC's prioritized SDGs, including: SDG3 Good Health and Wellbeing, SDG6 Clean Water and Sanitation, SDG7 Affordable and Clean Energy, SDG8 Decent Work and Economic Growth, SDG9 Industry, Innovation and Infrastructure, SDG12 Responsible Consumption and Production, SDG13 Climate Action, and SDG17 Partnerships for the Goals.



TSRC Focus on SDGs

SDG 3 Good Health and Well-being

Ensure human health and promote the wellbeing of people of all ages through the use of TSRC products in medical materials and healthcare products.

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SDG 6 Clean Water and Sanitation

TSRC increases the use of recycled and reclaimed water, increases wastewater recycling, and optimizes the efficiency of water use to ensure that there is enough fresh water available for human consumption and reduce water shortages.

SDG 7 Affordable and Clean Energy

TSRC is committed to increasing the proportion of renewable energy use, reducing energy consumption per unit of product, increasing energy efficiency, and taking action to support renewable energy development.





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SDG 9 Industry, Innovation and Infrastructure

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Continuously optimize the manufacturing process, improve resource efficiency, apply green chemistry principles, and adopt environmentally friendly and clean production technologies. TSRC actively strengthens the company's technology development and innovation to increase the added value of products and industries.

SDG 12 Responsible Consumption and Production

TSRC fulfills its corporate social responsibility by carefully handling the environmental management of chemicals and all waste, thereby reducing the chance of spills and emissions to the atmosphere, water, and soil during the manufacturing and transportation process. TSRC develops products that can effectively reduce environmental impact and increase product sustainability and recyclability to reduce the potential negative impact on the environment during the product life cycle.

SDG 13 Climate action



CO

TSRC has set short- and medium-term carbon reduction targets for 2025 and 2030 respectively in order to move toward carbon neutrality and actively support and implement global climate change initiatives.

SDG 17 Partnerships for the Goals



TSRC continues to strengthen cooperation with value chain partners and stakeholders, including collaborations in science, technology, innovation, business, environment, and social development, thereby jointly creating sustainable value.

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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," "Enhancing Positive Social Impact," and "Promoting Environmental Protection," 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.

Environmenta

- Take actions to global carbon reduction and invest in developing green manufacturing process
- Lift product value and be the first choice for clients to reduce environmental impact and carbon emissions
- Develop an innovative circular economy business model and strengthen the efficiency of energy and resource



Social

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





Governance

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



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Environmental

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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, jointly engaging in green innovation based on the concept of sustainability together with the value chain. With innovative thinking and business partnerships, we are working together with our partners to enter the era of low-carbon economy.

6 CLEAN WATER JACO SANTIATION	7 AFFORDABLE AND CLEAN ENERGY	9 INDUSTRY, IMMONATION AND INFRASTRUCTURE	12 RESPONSIBLE CONSUMPTION AND PRODUCTION	13 CLEMATE ACTEVIN

✓ The status of achievement in 2023

	Target	🛨 2023 Achievements		2023	2025	2030
CO ₂ Towards Carbon	Reduce total carbon emissions (Scope 1+2; Base year: 2021)	Total emissions decreased by 8.3%, compared to the base year	0	Total carbon emissions reduction by 5%	Total carbon emissions reduction by 10%	Total carbon emissions reduction by 22.5%
Neutrality Operation	Increase the use of renewable energy	Renewable energy accounted for 6.1% of total electricity consumption	Ø	Increase renewable energy to 5% of total electricity consumption	Increase renewable energy to 10% of total electricity consumption	Increase renewable energy to 30% of total electricity consumption
	Increase wastewater recycling	Wastewater recycling accounted for 25% of total wastewater volume	Ø	Increase wastewater recycling to 25% 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
Water Resource Optimization	Increase reclaimed water utilization	Reclaimed water accounted for 22% of total water consumption	0	Increase reclaimed water utilization to 15% of total water consumption	Increase reclaimed water utilization to 34% of total water consumption	Increase reclaimed water utilization to 40% of total water consumption
		Developed a new generation of synthetic rubber for green tires/footwear materials, and reduce environmental carbon emissions about 200,000 mt based on sales volume		Develop new-generation synthetic rubber for green and EV tires/ shoe materials to reduce carbon emissions by around 150,000 mt (based on sales projection)	Develop new-generation synthetic rubber for green and EV tires/ shoe materials to reduce carbon emissions by around 300,000 mt (based on sales projection)	Develop new-generation synthetic rubber for green and EV tires/ shoe materials to reduce carbon emissions by around 1,500,000 mt (based on sales projection)
	Develop eco-friendly products	Conducted feasibility analysis of green foam products and develop more applications	S	Develop eco-friendly foaming product	Develop eco-friendly foaming products with recyclability	Develop eco-friendly foaming products that use renewable materials and more recyclability
		Developed Special styrene block copolymer (SBC) for medical, shoe materials and plastic modification. Products have successfully entered the market for sale		Develop Special styrene block copolymer (SBC) for medical equipment, shoe materials, plastic modification, aiming to increase recyclability and decrease medical waste	Develop New type of special styrene block copolymer (SBC) to support customers to reduce energy consumption and organic solvents in production process	Develop Medical TPE products for reducing medical waste by 10% compared with previous generation products by (based on sales projection)
Lower Products' Carbon Footprint	Product process optimization	Optimized the manufacturing process of TPE products and reduced the use of vapor, achieving carbon emissions reduction by 3,185 mt in 2023, compared to the previous year		Optimize production process of TPE projects and reduce use of steam to achieve 1,800 mt of carbon emissions reduction per year	Optimize production process of TPE products to reduce electricity and energy consumption	Optimize production process of TPE products, reduce electricity and energy consumption to achieve 9,000 mt of carbon emissions reduction per year
	Use of renewable materials ^{Note1}	Signed MOU with 2 suppliers of renewable raw material		Explore and engage with renewable raw material suppliers	Renewable raw materials account for 5% of total raw material purchase	Renewable raw materials account for 15% of total raw material purchase
	Increase Sustainable products ^{Note2}	 Sustainable products accounted for 3.4% of total sales Kaohsiung Factory has obtained ISCC Plus certificate The Group has completed the carbon footprint verification (ISO14067) for 19 main products 		The sustainable product portfolio accounts for 3% of total sales	The sustainable product portfolio accounts for 20% of total sales	The sustainable product portfolio accounts for 40% of total sales

Note: 1. Renewable materials: (1) Agriculture based (2) Bio-based (3) Waste of other products

2. TSRC sustainable product: (1) Reduction: reduce product carbon emission intensity /product for reducing environmental impact/products for reducing customer's energy consumption of process (2) Recycle: product with recyclability (3) Renewable: products using renewable materials (4) Replace: Products that can safely replace other products

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Social

To enhance corporate competitiveness, TSRC will continue to strengthen ESG development and talent cultivation, promote multi-functional 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 use 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.

3 GOOD HEALTH	8 DECENT WORK AND ECONOMIC GROWTH	9 INDUSTRY, INNOVATION	17 PARTNERSHIPS
AND WELL-BEING		AND INFRASTRUCTURE	FOR THE GOALS
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✓ The status of achievement in 2023

	Target	★ 2023 Achievements		2023	2025	2030
	Enhance organizational ESG development and employee	The number of cultivated employees in 2023 for program reached 35% and it accounted for 47% of targeted employees cumulatively		30% of employees (cumulative) undergone multiple competency training	60% of employees (cumulative) undergone multiple competency training	80% of employees (cumulative) undergone multiple competency training
∱. <mark>♡</mark>	competency	Completed ESG fundamental training program for global employees	v	Build organizational ESG mindset through completion of ESG training program globally	Strengthen organizational ESG capacity via development and integration of ESG information & management systems	Enhance the ability to analyze ESG performance
Strengthen Organization's Sustainability Capability	Sustainable cooperative program with business partners or outside institutions	 Participated in the 2023 Chemistry Annual Conference and conducted exchange activities with college students Participated in international rubber exhibitions and exchange activities Set up factory visits for students participating in the petrochemical special course, which was a collaboration between TSRC and local high schools 1,059 participants cumulatively 		Achieve > 300 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
	Enhance global workplace safety in the global operating environment	The Total Recordable Incident Rate (TRIR) was 0.34	v	TRIR ≦ 0.36	TRIR < 0.3	TRIR < 0.3 and achieve one or more years of zero recordable injuries
Improve Health, Safety & Wellbeing of Employees	Strengthen employee engagement	 The employee engagement survey is conducted every three years. 2023 use 2022's result, and the approval rate at 74% The employee Net Promoter Score in 2023 increased by 5.6 points, compared to 2022 		70% engagement score via employee engagement survey	72% engagement score via employee engagement survey	75% engagement score via employee engagement survey
	Enhance employee's physical and mental care	Organized physical and mental health activities or lectures, with a total of 2,606 cumulative participants since 2022		 > 500 employees (cumulative) participated in physical and mental health activities or lectures 	More than half of global sites provide physical and mental consulting services	All global sites provide physical and mental consulting services
	Support environmental protection and social care programs	874 people participated in beach cleaning, social welfare activities, social care, or environmental protection activities	v	> 300 volunteers (cumulative) for social care or environmental protection activities	> 600 volunteers (cumulative) for social care or environmental protection activities	> 1,000 volunteers (cumulative) for social care or environmental protection activities
Enhance Social Engagement	Promote science education programs	Organized scientific activities, with a total of 578 participants	S	> 150 participants (cumulative) for science education activities	> 300 participants (cumulative) for science education activities	> 1,000 participants (cumulative) for science education activities

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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 develop 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.

	Target	🛨 2023 Achievements		2023	2025	2030
Strengthen Corporate Governance	Enhance risk & crisis management	 Completed annual climate risk assessment and disclosure Integrated climate-related risks into enterprise risk management Reported 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 mechanism, protection measures, and timely disclosure	Strengthen risk monitoring and improve operation management via digital management system	Continuous improvement on global risk management and crisis response mechanisms
	Build new sustainable business	Evaluated the investment opportunities in new sustainable ventures		Evaluation of new business	New business contributes >5% of total consolidated revenue	New business contributes >10% of total consolidated revenue
Integrate	Strengthen innovation momentum	New products accounts for 16% of total revenue	v	Increase new products development activities	New products contribute >15% of consolidated revenue	Increase new product revenue contribution
Sustainability and Business Strategies	Uplift customized-service value ^{Note1}	The sales of easy-to-process synthetic rubber increased by 21% , compared to 2021	⊘	Increase the sales of easy-to-process synthetic rubber by more than 8% , compared to 2021; and evaluate 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 commercialize other new customized products or services
Build Resilient Operation	Accelerate reduction of supplier's GHG emission	Confirmed that the top 20 suppliers (by purchase spent) have greenhouse gas reduction targets or plans and have carried out reduction activities	②	Require top 20 suppliers (by purchase spent) to implement GHG emission reduction target and actions	Require top 50 key suppliers (by purchase spent) implement GHG emission reduction target and actions	Require all suppliers implement GHG emission reduction target and actions
	Strengthen supply chain integrity	78% (total purchase spent) of global raw materials from local sourcing and continue to develop local renewable raw material suppliers	0	>70% (total purchase spent) of raw materials from local sourcing and develop local suppliers of renewable raw materials	>75% (total purchase spent) of raw materials from local sourcing and develop local suppliers of renewable raw materials	>80% (total purchase spent) of raw materials from local sourcing and develop local suppliers of renewable raw materials

Note: 1. TSRC customized service: (1) Easy Processibility: Assist customers to reduce production process to save energy or resource consumption (2) eco-friendly packaging: Assist customers to reduce carbon emissions in transportation and logistics process (3) High-value application: cooperate with value chain partners, provide solutions, and assist customers enter green industry chain (4) Others



The status of achievement in 2023



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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 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'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 the downstream compounding 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. 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, while it seeks to expand its 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.



1.1.2 Main products and applications



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1.1.3 Business Performance

In 2023, global economic growth and the petrochemical market were sluggish. Supply and demand were out of balance, and terminal inventories were slow to be depleted, resulting in a significant decline in profit margins under the dual pressures of price competition and rising costs. Despite these challenges and uncertainties, TSRC responded to market changes in a timely manner, focusing on executing its business plan, proactively controlling operating costs, and demonstrating its operational resilience. The annual consolidated revenue in 2023 reached NT\$31.427 billion, a decrease of 7% from NT\$33.841 billion in 2022. The net operating income was NT\$948 million, a decrease of 65% from 2022. The annual after-tax net income was NT\$680 million.

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 <u>4.1.1 Board of directors and functional committees</u> and <u>TSRC's 2023 annual report</u>.



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1.2 ESG Management

1.2.1 Stakeholder Engagement

TSRC's stakeholder engagement strategy respects the perspectives and input of stakeholders, fostering open and effective communication to continuously enhance their interests. TSRC has identified six primary stakeholders based on its 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/authorities.

TSRC values effective communication with stakeholders, offering a range of channels fitting stakeholders' characteristics (e.g., online/offline meetings and telephone surveys). These regular and ad-hoc channels are instrumental in comprehending the actual and potential impacts of TSRC's business operations on stakeholders, allowing for proactive measures to prevent and mitigate any adverse effects. Moreover, to ensure effective and continuous communication, TSRC conducts an annual survey both internally and externally to gauge stakeholders' concerns regarding ESG issues and TSRC's sustainability initiatives. Feedback received from stakeholders is carefully integrated into internal discussions, with the Executive Leadership Team (ELT) promptly addressing and responding to any material issues identified.

TSRC places a strong emphasis on engaging with "Employees and other workers" and "Customers." For employees, alongside the annual questionnaire, insights from the triennial employee engagement survey serve as vital indicators for enhancing employee satisfaction and workplace conditions. Following analysis of the survey findings, improvement plans are implemented to address any identified issues. Additionally, the Executive Leadership Team (ELT) maintains regular communication with representatives from the Kaohsiung Labor Union to gain insight into employee needs and expectation. Furthermore, to ensure high-quality products and services remains paramount, TSRC views customer satisfaction results as crucial performance indicators of customer engagement.

Target of Engagement	Significance to TSRC	Topics of Concern ^{Note 1}	Engagement Channel and Frequency	2023 Engagement Results and Actions
Employees and other workers	Employees are TSRC's most important asset. Through their professional skills, they drive the continuous improvement of TSRC's products and services.	Environmental Climate strategy and GHG emissions Society/People Occupational health and safety Governance Business strategies and performance	Quarterly • Quarterly CEO communication meeting Multiple times per year/ Irregular basis • Employee welfare committee meeting • Employee education training • Health promotion forum • Functional questionnaire • Employees complain mailbox Munually • Labor union representatives conference • Language training courses • Sustainability section of TSRC's website	 Environmental Organized quarterly CEO meetings to improve employees' understanding of the company's development direction Society/People Conducted regular meetings of the Employee Welfare Committee and developed activities related to employee welfare Continued to promote safety and health training and drills to ensure a safe workplace Strengthened the "Global Self-Development" project to promote the development of the organization and the functional transitions of employees Organized online sharing events to provide employees to understand the application of TSRC core values in work Listened to employees' comments and suggestions from Labor Union and made employees understand TSRC's operating situation Provided employees with English courses to promote internal multinational communication and communication with external stakeholders Provided multiple health seminars to improve employee health Set up FAQs on the sustainability section of TSRC's website to make it easy for employees to understand TSRC's strategy and status of ESG implementation Conducted global ESG education training for employees to make them familiar with ESG and the development of carbon market Expanded the information on the self-learning platform to enable new employees to quickly understand of the company's vision and long-term development

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Target of Engagement	Significance to TSRC	Topics of Concern ^{Note 1}	Engagement Channel and Frequency	2023 Engagement Results and Actions
Customers	Customer trust is the cornerstone of TSRC's sustainable operations. TSRC creates value for customers through innovative products.	Environmental Climate strategy and GHG emissions Society/People Occupational health and safety Governance Sustainable innovation	 Multiple times per year/ Irregular basis Customer meetings or interviews (e-mail, telephone, video chat) Technology or industry seminars Domestic and overseas exhibitions Information disclosure on the company website Customer ESG audit International ESG evaluation disclosure Annually Customer satisfaction survey 	 Environmental Discussed with customers to understand sustainable product needs Society/People Provided timely responses to customers' ESG or sustainability questionnaire and explained TSRC's ESG strategy, goals, and action plans to customers Cooperated with customers' ESG audits Participated in the Ecovadis evaluation and provided customers with the results of TSRC's ESG performance evaluation directly Governance Conducted the customer satisfaction survey each year to maintain high level of satisfaction Responded to customers' questions and met their needs immediately through TSRC's business units Conducted interviews to build long-term partnerships with customers
Local communities	Neighboring residents and local communities provided TSRC with diversified suggestions to drive TSRC's continuous efforts to reduce the potential or actual negative impacts of production activities and to actively expand the positive influence.	Environmental <u>Climate strategy and GHG emissions</u> Society/People <u>Occupational health and safety</u> Governance <u>Governance, Integrity and business</u> <u>ethics</u>	Multiple times per year/ Irregular basis Community visits The Industrial Park Manufacturers Association Meeting Information on the Company's website Annually The Industrial Park Service Center Meeting	 Environmental Governance Visited nearby communities of the Kaohsiung Factory to understand their concerns Society/People Supported small organic farmers in Kaohsiung with specific actions and promoted environmental friendly soil treatment Introduced visually impaired masseurs to support the employment of vulnerable groups in local communities Regularly sponsors school lunches for elementary schools in Dashe District of Kaohsiung every year
Shareholders and investors	Shareholders and investors influence TSRC's operational decisions. TSRC continues to respond to shareholders' expectations with excellent operating performance.	Environmental Climate strategy and GHG emissions Society/People Occupational health and safety Governance Compliance	Multiple times per year/ Irregular basisInvestor Service Mailbox on TSRC's websiteThe Market Observation Post System (MOPS)Website updates and major news announcements, stakeholder member section, ESG mailbox on TSRC websiteAnnuallyConvene 1 shareholder meeting per yearLive broadcast of investor conference at least twice a year	 Environmental Governance Society/People Convened 1 shareholders' meeting and 2 investor conferences Updated information on the Company's website and MOPS from time to time Collected post-event questionnaires after investor conferences and compiled investor feedback and suggestions

Target of Engagement	Significance to TSRC	Topics of Concern ^{Note 1}	Engagement Channel and Frequency	2023 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.	Environmental Climate strategy and GHG emissions Society/People Occupational health and safety Governance Sustainable innovation	Multiple times per year/ Irregular basis • ESG mailbox on the TSRC website • GHG reduction target promotion • Annual interactive visits or meetings Annually • Annual supplier evaluation once a year	 Environmental Society/People Regularly visited major suppliers for two-way communication Completed annual global supplier audits Received the signed TSRC Group Supplier Code of Conduct and responded to the Corporate Sustainable Development Questionnaire Governance Irregularly interviewed local suppliers and formed partnerships Explored renewable raw materials suppliers
covernment and authorities	TSRC maintains smooth communication channels with the government to keep abreast of the latest regulatory trends.	Environmental Energy management Society/People Occupational health and safety Governance Compliance	Multiple times per year/ Irregular basis • Interviews (phone calls, visits, meetings) • Participation in government laws and regulations promotion activities	 Environmental Participated in carbon trading related lectures held by government and authorities Governance Responded to public company surveys of the TWSE Participation in seminars organized by the TWSE Maintained close contact with the TWSE to inquire about and verify material information and announcements

1. The methodology of survey about stakeholders' topics of concern: TSRC sent questionnaires in English and Chinese to six categories of stakeholders located in the U.S., Europe, Singapore, Vietnam, Taiwan, and China, where TSRC operates and its subsidiaries are located, asking stakeholders to rank their concerns about TSRC's actions on 20 issues in three categories: Environmental, Society/People and Governance.

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2023 Stakeholder Survey

TSRC conducts an annual stakeholder survey, encompassing both internal and external stakeholders, to gauge the level of concern regarding sustainability issues among its six primary stakeholders (employees and other workers, customers, local communities, shareholders and investors, suppliers, government and authorities). The survey findings are then incorporated into TSRC's material topic selection process. 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 "the 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 survey covers 7 environment-related issues, 6 societal/people-related issues, and 7 governance-related issues.

In the 2023 Stakeholder Survey, a total of 976 questionnaires were collected, with 970 deemed valid (These valid responses comprised 364 from employees and other workers, 66 from customers, 8 from local communities, 12 from shareholders and investors, 514 from suppliers, and 6 from government and authorities). Due to undefined stakeholder category, 6 questionnaires were invalid.

TSRC employed a weighted approach to analyze the level of concern assessed by different stakeholders. The three primary issues that garnered the highest level of stakeholder concern are:

Environment-related

- Climate strategy and GHG emissions
- Energy management
- Product stewardship and chemical management

Social/people-related

- Occupational health and safety
- Employee well-being and sense of belonging
- Diversity, equality, and inclusion (DE&I)

Governance-related

- Governance, integrity and business
 ethics
- Compliance
- Business strategy and economic performance

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1.2.2 ESG management structure

ESG is a key element of TSRC's sustainable development. The Board of Directors has commissioned the CEO to lead an eight-member Executive Leadership Team (also referred to as the ESG Steering Committee) consisting of the heads of each functional unit to formulate ESG strategies and establish mid- and long-term goals. The ESG Steering Committee reports to and receives approval from the Board of Directors on the development of the ESG organizational structure, the planning framework, and the ESG strategies and objectives. Through biannual reports provided by the ESG Steering Committee, the Board oversees and monitors progress toward ESG goals, material actions, and the outcomes of stakeholder communications. Subsequently, the Board offers guidance for further improvement.

In 2023, the ESG Steering Committee reported to the Board on material ESG issues three times. These issues were deemed significant as they could potentially impact both the financial and non-financial performance of TSRC. Eight material issues were identified in 2023, encompassing the development of sustainable strategies on ESG, implementation results of ESG goals, climate-related risks and progress of response measures, prevention of information security risks and its progress, details of stakeholder communication and engagement, material ESG issues and response measures, GHG emissions inventory and verification, and the annual capital investment budget for ESG topics.

To ensure the effective implementation of ESG strategies and goals, TSRC has established an ESG Sustainable Development Team 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 Partners. This group comprises members from each functional unit selected based on their ESG attributes. The TSRC ESG Partners is responsible for implementing ESG measures monitoring progress and implementing suggestions from the ESG Steering Committee. It is divided into sub-groups focused on Environmental, Social, Governance, and Stakeholder Maintenance 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-, mid-, and long-term ESG goals.

ESG Management Framework Chart



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			Governance	Social	Environmental	About TSRC	Information			Recognitions	the CEO	Report	

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 examined the substantive and potential impacts of daily operations on the economy, environment, and society/people, incorporating input from internal and external stakeholders to optimize TSRC ESG management strategies and track and manage impacts.



In 2023, TSRC identified 11 material topics, which are as follows: Climate strategy and GHG emissions, Energy management, Water resource management, Waste and hazardous substance management, Occupational health and safety, Talent development, Business strategy and economic performance, Compliance, Sustainable innovation, Risk management, and Sustainable supply chain management. Notably, compared to the previous year's report, three new topics were added: Talent development, Sustainable innovation, and Sustainable supply chain management. For more information, please refer to the Appendix: Comparison of Changes in Material Topics to the Previous Year.







Content	s About t Repor	he Letter from t the CEO	Awards and Recognitions	ESG Stories	ESG Strategy	Company Information	Chapter 1 About TSRC	Chapter 2 Environmental	Chapter 3 Social	Chapter 4 Governance	Appendix
🤊 Ma	anagement	of Material Topi	ics								
No.	Material Topics	Positive/nega Envir	tive impacts ronment, and	on the Econc I People	omy,	Policies or Commitments	Upstream	pact on the Val	ue Chain	Actic Correspon	ons and ding Chapter
		(Includ	ing their hum	nan rights)			Raw Material Manufacturing	$\xrightarrow{\text{Product}}_{\text{Manufacturing}} \xrightarrow{\text{Cus}}_{\text{arr}}$	tomers' Local cessing → Communities d Use		
0	Climate strategy and GHG emissions	Society/People TSRC's operations and cause climate change a biodiversity. Society/People TSRC's operations and cause climate change a rights and interests of a rights and interests of a rights and interests of a society. TSRC's operations and cause climate change a rights and interests of a society. TSRC's operations and cause climate change a rights and interests of a society.	suppliers emit and impact the suppliers emit and related disa society and pec suppliers emit and related climes.	greenhouse gas environment, en greenhouse gas asters, and dam ople. greenhouse gas nate disasters, r	ses that cology and ses that hage the ses that resulting in	<u>TSRC ESG strategy &</u> <u>Targets</u> Environmental Policie	S	- •	2-0	 Promote en low-carbon process Plan the use energy 2.1.1 Clin 	ergy-saving and manufacturing e of renewable nate Change
		Positive - Reducing Environmental TSRC is committed to a products in order to red impacts of climate cha Society/People TSRC provides custom help them meet their ca	y the carbon for reducing the ca duce emissions ange and the em ners with low ca arbon reduction	ootprint of pro arbon footprint of and mitigate the vironment. arbon footprint p n goals.	oducts of its ne negative products to		0—			<u>Strategy and</u>	<u>d Management</u>

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No.	Material Topics	Positive/negative impacts on the Economy, Environment, and People (Including their human rights)	Policies or Commitments	Impa Upstream Raw Material Manufacturing→	act on the Value TSRC Operations Product Manufacturing $\rightarrow \frac{Cust}{Proc}$	Downstream Downstream pomers' Use Communities	Actions and Corresponding Chapter
2	Energy management	Negative - Use of fossil fuels Environmental 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 - High energy consumption Environmental If TSRC consumes a significant amount of energy, it may have a crowding-out effect on energy resources in the area of operation, resulting in the competent authorities to expand 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.	• <u>TSRC ESG strategy &</u> <u>Targets</u> • Environmental Policies				 Promote energy-saving and low-carbon manufacturing process Plan the use of renewable energy 2.1.2 Energy Management
		Positive - Using renewable energy Environmental If TSRC uses renewable energy to reduce its dependence on fossil fuels, it will help mitigate climate change and negative environmental impacts. 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 the transformation of the low-carbon economy.		•	-0-0		

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No.	Material Topics	Positive/negative impacts on the Economy, Environment, and People (Including their human rights)	Policies or Commitments	Imp Upstream Raw Material Manufacturing	act on the Value TSRC Operation Product Manufacturing → Cust and	ue Chain Downstream $d_{Use} \rightarrow communities$	Actions and Corresponding Chapter
3	Water resource management	 Negative - High water consumption Environmental If TSRC has a high consumption on tap water, it may lead to crowding-out effects on water resource in the area of operation, resulting the competent authorities expanding the construction of reservoirs or the water storage facilities to meet the water consumption of industries and local communities. The construction may cause adverse impact on the environment, ecosystem, and wildlife habitats. Society/People If TSRC has a high consumption on tap water, it may lead to crowding-out effects on the distribution of water resources, which may harm the rights and interests of local communities in the use of water. Negative - Improper treatment of wastewater Environmental 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 Invironmental Increasing the wastewater recycling rate and the use of reclaimed water will reduce TSRC's tap water consumption, its dependence on water resources, and its impact on the ecological environment. Economy TSRC's expansion of reclaimed and recycled water promotes the development of reclaimed water technology and the transition to a green economy. 	 <u>TSRC ESG strategy &</u> <u>Targets</u> Environmental Policies 	 ○ - 			 Promote wastewater reuse Increase recycled water usage percentage Optimize wastewater treatment facilities 2.4 Optimize Water Resource Usage

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No.	Material Topics	Positive/ne En (Incle	gative impacts wironment, and uding their hur	s on the Econo d People man rights)	omy,	Policies or Commitments	Upstream Raw Material Manufacturing	Dact on the Value of the Value	tue Chain Downstream tomers' tocessing nd Use	Actio Correspond	ns and ling Chapter
4	Waste and hazardous substance management	Negative - Impro Environmental If the waste generat without proper treat Society/People If the waste generat without proper treat community. Negative - Toxic Environmental If TSRC produces ha water or soil, it may resulting in an ecolor Society/People If TSRC discharges local community or substances, resultin poisoning through b in the human body. Positive- Waste Environmental TSRC promotes the extraction of raw ma environment. By red use of energy resour	ed by TSRC is disment, it may cause ed by TSRC is disment, it may cause ed by TSRC is disment, it may affect chemical spills armful chemicals cause the death of gical disaster. harmful chemical end-users are dira g in physiological iomagnification a reduction, reuse recycling and reu aterials and to reconcurs	esposed of or disc se ecological im scharged or disc ct the health of t and discharges of animals and p ls into water or s ectly exposed to I disorders or ch and long-term ac e and recycling use of waste to a duce the impact eration, TSRC av I ecological imp	charged pacts. arded the local them into plants, soil, the the toxic ronic cournulation avoid the on the roids the acts of	TSRC ESG strategy & Targets Environmental Policie				 Optimize the manufacturi reduce wast Reuse and re 2.3.1 Waste 	e ng process to e ecycle waste <u>Management</u>

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No.	Material Topics	Positive/negative impacts on the Economy, Environment, and People (Including their human rights)	Policies or Commitments	Impact on the Val Upstream TSRC Operation Raw Material Product Cust Manufacturing Manufacturing Cust	ue Chain bownstream tomers' $\rightarrow \frac{Local}{Communities}$	Actions and Corresponding Chapter
6	Occupational health and safety	Negative - Occupational 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. Positive -Promoting health and safety in the workplace Society/People TSRC continues to optimize the workplace environment and health to provide employees with a positive and safe work environment. Economy TSRC advocates workplace health promotion measures to improve the health of employees and the overall productivity of the economies in which it operates.	 TSRC ESG strategy & Targets HSE incident reporting and investigation procedures Contractor management procedure TSRC Group Supplier Code of Conduct 			 Establish the TSRC HSE incident management mechanism Set up the TSRC global HSE awards <u>3.2.1 Occupational Health and Safety</u>
6	Talent development	Positive - Improving talent cultivation Society/People TSRC provides on-the-job training and job coaching to assist employees with future career planning and development. Economy TSRC provides comprehensive professional training courses and learning resources to cultivate talents in the chemical industry and promote the improvement of the overall competitiveness of the industry.	 <u>TSRC ESG strategy &</u> <u>Targets</u> Talent development policy 	••••)0	 Promote four cultivation programs, including the TSRC Management Leadership Model Conduct e-learning courses <u>3.1.2 Talent Attraction and</u> Empowerment
7	Business strategies and performance	Positive -Good operational strategies and performance Society/People TSRC continues to make profits, creating higher economic value and benefits for shareholders and employees. Economy TSRC's good operating strategies and continued profitability revitalize the local economy and create momentum in the area where the plant is located.	• <u>2023 Investors</u> <u>Conference</u> <u>Presentation</u>	0-0-()0	 Adopt a proactive pricing strategy Utilize product portfolio advantage <u>1.1.3 Key Business</u> <u>Achievements</u>

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No.	Material Topics	Positive/negative impacts on the Economy, Environment, and People (Including their human rights)	Policies or Commitments	Impa Upstream Raw Material Manufacturing→	TSRC Operations Product Manufacturing $\rightarrow Proc and$	ue Chain Downstream omers' → Local d Use	Actions and Corresponding Chapter
8	Risk Management	Negative - Mismanagement of risk 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. Economy If TSRC doesn't properly manage its 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.	• <u>TSRC Enterprise Risk</u> <u>Management Policy</u>	0—	•)0	 Develop and implement risk management actions Monitor risk responses quarterly <u>4.1.2 Risk Management</u>
9	Compliance	Negative - Violation of laws and regulations Environmental If TSRC violates environmental laws and regulations, causing environmental laws and regulations, causing pollution or other negative effects and disrupts 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, customers and suppliers will be harmed. Economy If TSRC violates laws and regulations related to corporate governance, and ethical integrity and other governance-related failures that result in the company being fined by the relevant authorities, the overall economic development and efficiency will be reduced.	 Corporate Governance Guidelines Code of Ethics Code of Business Conduct Management Procedure for Insider Trading Management Procedure for Antitrust Compliance 	0	•)	 Track laws and regulatory updates Develop and host educational training and dissemination <u>4.1.5 Compliance</u>

Conter	ts About th Report	e Letter from Awards and ESG Stories ESG Strat the CEO Recognitions	egy Company C Information A	Chapter 1 Chapter 2 Chapter 3 bout TSRC Environmental Social	Chapter 4 Appendix Governance
No.	Material Topics	Positive/negative impacts on the Economy, Environment, and People (Including their human rights)	Policies or Commitments	Impact on the Value Chain Upstream TSRC Operations Downstream Raw Material Annufacturing Product Customersi Processing Customersi and Use Communities	Actions and Corresponding Chapter
10	Sustainable innovation	Positive - Sustainable innovation Environmental TSRC provides innovative, sustainable products to reduce energy and resource consumption and ecological impact. Economy TSRC has innovative and sustainable technology that encourages the rubber industry to promote low-carbon, waste-reducing and energy-saving production technologies, and stimulates the sustainable transformation of the entire industry and economy.	 TSRC ESG strategy & Targets "Overview of Development Management" "R&D Management Measures" "R&D Management Measures" "New Product Development Management Management Measures" 		 Promote energy-saving and carbon-reduction manufacturing process Optimize manufacturing process and technology Increase Innovative and sustainable products <u>4.2 Develop Innovation</u> <u>Momentum</u>
1	Sustainable supply chain management	Negative - Inadequate supply chain management Environmental Due to inadequate supply chain management, TSRC's suppliers have caused environmental pollution, destroying ecological balance and environmental quality. Society/People Due to inadequate supply chain management, TSRC's suppliers have violated workers' rights and interests, resulting in harm to workers' rights and interests. Economy Due to inadequate supply chain management, TSRC's suppliers have been dishonest, corrupt, or fraudulent, affecting the development of the rubber industry and the overall economic efficiency.	 TSRC ESG strategy & Targets TSRC Group Supplier Code of Conduct 		 Annually screen suppliers for desk-based or on-sites assessments Track top 20 suppliers' GHG reduction plan implementation status <u>4.3 Enhance Supply Chain</u> <u>Management</u>

Chapter 2 Environmental

In response to the international trend of carbon reduction and the pressure of energy and resource scarcity, TSRC values all of the earth's resources and has set active carbon reduction targets to achieve carbon neutrality. We have accelerated the use of renewable energy, water recycling, and renewable materials. We have also developed products and services to help customers reduce their energy and resource consumption, and collaborated with all partners along the value chain for green innovation in the chemical industry.

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2.2	Design Green Products	59
2.3	Enhance Waste Management	63
2.4	Optimize Water Resource Usage	68
2.5	Improve Environmental Management	72

GHG emissions reduced by

8.3%

In 2023, Scope 1 and 2 GHG emissions were reduced by 8.3% (regional basis) compared to the base year (2021), exceeding the annual target

Wastewater recycling rate

25%

Wastewater recycling as a percentage of total wastewater in 2023 reached annual target

Reclaimed water use rate **22%**

Reclaimed water use as a percentage of total water consumption in 2023 exceeded annual target

Material topics

Climate strategy and GHG emissions, Energy management, Waste management, Water resources management
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2.1 Towards Carbon Neutrality



TSRC ESG strategy & Targets

Environmental Policies



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

	2023 Achievement	2023 Goals	2025 Goals	2030 Goals
Goals and Achievement	Total carbon emissions reduced by 8.3% (regional basis) from 2021 baseline	Reduce total carbon emissions by 5% from 2021 baseline	re total carbon emissions by 5% Reduce total carbon emissions by 5% from 2021 baseline 10% from 2021 baseline	
Actions	 Refer to the recommendation (TCFD) to regularly assess th impact. Establish TSRC Group's GHG Set TSRC Group's renewable Develop renewable raw mate 	is of the Task Force on Climate-related Finance e risks and opportunities of climate change a reduction strategy and target. energy targets and increase renewable energ rials.	cial Disclosures nd its financial 9 Develop product car 9 Develop products th 9 Improve product ma 9 reduce energy cons	oon footprint. at reduce environmental impact. anufacturing efficiency and umption.
Processes for t effectiven	 The Board of Directors has be actual operating sites are affereport, and is informed about each country on the company Executive Leadership Team (I The ELT regularly reports to t performance objectives of se climate-related risks) that are 	een informed about the operational situation a acted by extreme climate impacts in the quart the impact of the progress of climate change (in the regular report and has made recomme ELT). he Board on annual climate risk management nior managers include material ESG issues (in linked to their performance bonuses.	 The ESG Task Force assesses climate-re and formulates action measures. The ESG Task Force and formulates action measures. The ESG Task Force the implementation and opportunities. 	e, appointed by the ELT, regularly lated risks and opportunities onable plans and preventive e reports quarterly to the ELT on or disclosure of climate risks
Stakeholo engagemo	 Provide investors with an overopportunities and the implementation of the earnings call. At the same thoughts on the company's call. By requiring suppliers to sign suppliers to work together to business development. By the commitment. 	rview of TSRC's assessment of climate risks entation of the company's carbon reduction t e time, communicate with investors to unders arbon reduction targets and performance. the TSRC Group Supplier Code of Conduct, T ward a low-carbon transition economy and su e end of 2023, 97% of the Group's suppliers ha	and eargets during tand their SRC encourages ad made the ESG objectives to sh meetings and provio to express their view company's long-terr Conduct annual stal stakeholder opinion actions.	y's business and key strategic mareholders at shareholder de opportunities for shareholders vs and suggestions on the n development. keholder surveys to understand s and the effectiveness of TSRC

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TSRC ESG strategy & Targets

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, and gradually improves energy efficiency.

	2023 Achievement	2023 Goals	2025 Goals	2030 Goals
 TSRC Group's renewable energy accounted for 6.1% of total electricity consumption Kaohsiung Factory increased electricity consumption by 2,795 MWh and steam consumption by 15,529 tons Shen Hua Chemical used 310 kWh/ton of electricity and 1.15 tons/ton of steam per unit product The comprehensive energy consumption of Nantong Industries was 39,423.31 tce (ton of standard coal equivalent), and the comprehensive energy consumption per unit product was 0.591 (tce/ton) The comprehensive energy consumption of TSRC-UBE was 26,519 tce, and the comprehensive energy consumption per unit product was 0.392 (tce/ton) Shanghai Industries' electricity consumption per unit product was 417 kWh/ton in the summer and 403 kWh/ton in the rest of the year TSRC (Vietnam) Co., Ltd.'s electricity consumption per unit product was 865 kWh/ton 		 TSRC Group's renewable energy accounted for 5% of total electricity consumption Kaohsiung Factory reduced electricity consumption by 750 MWh and steam consumption by 250 tons Shen Hua Chemical's electricity consumption per unit product ≤ 303kWh/ton, steam consumption per unit product ≤ 1.14 ton/ton Nantong Industries' comprehensive energy consumption per unit product ≤ 0.592 (tce/ton) The comprehensive energy consumption of TSRC-UBE was 25,470 tce, and the combined energy consumption per unit product ≤ 0.382 (tce/ton) Shanghai Industries' electricity consumption per unit product < 422 kWh/ton in summer and < 410 kWh/ton in the rest of the year TSRC (Vietnam) Co., Ltd.'s electricity use per unit product ≤ 1,130 (kWh/ton) 	TSRC Group's renewable energy accounted for 10% of total electricity consumption	TSRC Group's renewable energy accounted for 30% of total electricity consumption
Action	 Improve product manufacturing efficiency and reduce Increase the use of renewable energy. 	e energy consumption.		
Processes for effectiven	 At least once a year, The Board receives a report from management (including energy management). The ESG Task Force reports quarterly to the ELT on the In accordance with the ISO 50001 management systemetry use. The ESG Task Force tracks the energy usage status of Manufacturing plants summarize the energy consum consumption, explanations should be provided to find 	n the Executive Leadership Team (ELT) on the implementation of the ne effectiveness of energy management and implementation. em, regular energy management meetings are held quarterly in each p of each facility monthly to ensure that relevant energy usage indicator ption rate per unit product every month and explain the consumption I out the reasons and improve the situation.	Group's sustainable r plant to track the effic is are met. situation. If there is e	isk siency of excess
Stakehol engagem	ent • Continually seek collaboration with value chain, bus	iness or industry partners to improve the Group's energy efficiency	/.	

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Material topics | Water resources management

Corresponding Chapter 2.4 Optimize Water Resource Usage



TSRC ESG strategy & Targets

Environmental Policies



TSRC increases wastewater recycling and the use of reclaimed water, and reduces reliance on tap water.

	2023 Achievement	2023 Goals	2025 Goals	2030 Goals
Goals and Achievement	 Wastewater recycling accounted for 25% of total wastewater volume Reclaimed water accounted for 22% of total water use 	 Wastewater recycling accounts for 25% of total wastewater volume Reclaimed water accounts for 15% of total water use 	 Wastewater recycling accounts for 36% of total wastewater volume Reclaimed water accounts for 15% total water use Wastewater recycling accounts for 36% of total wastewater volume Reclaimed water accounts for 34% of total water use 	
Actions	 Purchase additional wastewa Reduce water consumption r Reduce the amount of proces Continually evaluate sources 	ater recycling equipment to increase recycling near the plant site. ss wastewater discharged to the industrial wa for additional reclaimed water supplies.	g of process wastewater. astewater treatment plant.	
Processes for effectiven	 The Board of Directors holds change issues), and the ESG water resource goals and imp The ESG Task Force discusse recycling, and other programs 	quarterly meetings on issues related to ESG Task Force reports to the Executive Leadersl plementation status. es improving water resource management, ir s and implementation status on an irregular b	(including climate hip team (ELT) on horeasing wastewater basis.	
Stakeholo engagem	der • Feedback from annual stake ent management and actions, wh	nolder questionnaires is used to understand s nich are used as references for management	stakeholders' opinions and suggestions on TS decisions.	SRC's water resources

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Material topics | Waste management

Corresponding Chapter 2.3 Enhance Waste Management



TSRC ESG strategy & Targets

Environmental Policies



Commitment

TSRC optimizes the process to precisely control material input and reduce waste generation. TSRC promotes the recycling of by-products within the factories and exploring 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.

	2023 Achievement	2023 Goals	2024 Goals					
Goals and Achievement	 VOCs: 312.81 metric tons Total waste: 6,405.36 metric tons 	 Cs: 312.81 metric tons Total waste: 6,405.36 metric tons Due to the strengthening of the Group's waste management and the review of the Group's waste situation, there is no annual target for 2023, and the actual operation of each plant was used. VOCs: 425.62 metric tons^{Note} Total waste: 6,154.93 metric tons Note: Due to the increase in production in goal has been adjusted based on the year's production. 						
Actions	 Reduce waste generation through precise co Promote recycling of by-products within the Expand off-site reuse of waste materials. 	ontrol of material inputs. plant.						
Processes for effectiven	 At least one ESG meeting is held quarterly at the Operational Division, and the supervisor of the TSRC Global HSE reports to the supervisor of the Group Operational Division on behalf of each plant on the status of implementation and plans for future improvement. The Kaohsiung and Gangshan Factories set annual reduction targets and conduct quarterly reviews of their effectiveness. Nantong Industries, Shen Hua Chemical, and TSRC-UBE set annual reduction targets and conduct monthly reviews of their effectiveness. 							
Stakeholo engagem	 The Kaohsiung Factory cooperates with was from the site and send them to legal recyclinent The Gangshan Factory provides general rubbins 	ste recycling companies to collect recyclable parts (e.g., rub Ig companies for reuse. ber waste to stakeholders for recycling and reuse.	ber, wood, activated carbon, lubricating oil)					

2.1 Toward Carbon Neutrality

Facing the severe challenge of climate change, TSRC continues to review and examine the balance between industry and the environment, and dedicates our efforts to energy conservation and carbon reduction with the vision of achieving carbon neutrality. With 2021 as the base year, TSRC aims to reduce Scope 1 + 2 GHG emissions by 10% by 2025 and by 22.5% by 2030, and to achieve a renewable energy ratio of 10% by 2025 and 30% by 2030. TSRC's GHG emissions (on a regional basis) were reduced by 8.3% in 2023, exceeding the original target of a 5% reduction in 2023. Renewable energy accounted for 5% of the total, also meeting the 2023 target in the ESG strategy blueprint.

2.1.1 Climate-related Strategy and Management

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TSRC values the risks and business opportunities that may arise from climate change and refers to the TCFD recommendations to promote transparency in the disclosure of information on climaterelated risks and opportunities. TSRC has established a climate risk and opportunity management mechanism and integrated it into the company's risk management process. Through the four strategic directions of "governance, strategy, risk management, metrics and targets", TSRC is committed to promoting low-carbon transformation and strengthening operational resilience.

	TSRC Management Based on the TCFD Recommendations	Implementation in 2023
2	The Board of Directors monitors climate- related risks, opportunities, response strategies, targets, preventive measures, and actual performance.	 The Board of Directors was informed by the ELT about the operational situation and whether the actual operating sites were affected by extreme climate impacts in the quarterly operational report and was informed about the impact of the progress of climate change policies in each country on the company in the regular report and had made recommendations to the ELT. In 2023, the Board of Directors met in July and November to discuss climate change issues.
ance	The Executive Leadership Team (ELT) assesses climate change issues, establishes response plans, drives risk mitigation, reviews performance and reports regularly to the Board of Directors.	 The ELT charged the ESG Task Force with assessing climate-related risks and opportunities and developing response strategies and actions to be implemented upon approval by the ELT. The ESG Task Force reported quarterly to the ELT on the assessment of climate risks and opportunities and the status of implementation through physical meetings. Climate risk objectives were linked to annual management team objectives and performance reviews.
	Identify short-, medium-, and long-term climate risks and opportunities using climate change risk and opportunity assessment methodologies.	TSRC assesses climate risks and opportunities in terms of potential impact level, likelihood of occurrence, and vulnerability, and develop and implement countermeasures. Based on this assessment, developed and implemented countermeasures. Further details can be found in the <u>Appendix: "Climate-Related Risks and TSRC Response Measures"</u> and <u>"Climate-Related Opportunities and TSRC Response</u> <u>Measures."</u>
*	Analyze the potential operational and financial impact of material climate risks and opportunities for TSRC under the TCFD framework.	TSRC conducted the financial impact assessment of material climate-related risks associated with the increased cost of GHG emissions. Please refer to the <u>TSRC Sustainability Report 2021</u> for details.
egy	Perform climate risk analysis under different scenarios and assess short-, medium- and long-term carbon reduction and carbon neutral targets and actions.	 2021: TSRC analyzed the impact of the risk of increased cost of GHG emissions in the International Energy Agency's (IEA) Sustainable Development Scenario (WB2°C) and Net Zero Emissions by 2050 (NZE) Scenario. 2023: TSRC has addressed the transition risks, and the self-defined carbon reduction targets of the TSRC ESG Strategy Blueprint (for the SBT below 2°C scenario) and the IEA NZE scenario (for the SBT below 1.5°C scenario) were used to analyze the impact of the risk of increased sustainability-related demands and regulations, and to formulate a climate change strategy and related mitigation measures. In terms of physical risks, most of the extreme weather events (heavy rainfall, drought, typhoon, average temperature increase, extreme low temperature, sea level rise) were assessed as having a lower risk impact, except for the Kaohsiung Factory, which may be exposed to operational risks due to drought and water restriction measures, and TSRC has conducted a stress test to plan a response to enhance operational resilience.

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	TSRC Management Based on the TCFD Recommendations	Implementation in 2023
:	Establish a climate-related risk identification process based on the TCFD framework.	For details on the climate change risk identification process, please refer to the " <u>Climate Risks and Opportunities</u> " section. TSRC conducted a full climate-related risk and opportunity identification process every three years and reassessed the "potential impact level" and "likelihood" of risk factors annually.
Risk nanagement	 Develop adaptation and mitigation strategies based on the identified climate-related risks. Integrate the climate risk identification process into the existing risk management process. 	• The ELT appointed the ESG Task Force to assess climate-related risks and opportunities based on materiality ranking, develop response strategies and actions for approval by the ELT, and integrate climate risk factors into the company's risk management.
(1)	Establish climate-related indicators to facilitate annual performance tracking.	• Developed "reducing total carbon emissions, increasing the proportion of renewable energy, improving wastewater recycling, increasing the use of reclaimed water, developing products with lower environmental impact" as indicators of climate change adaptation and mitigation.
Metrics and Targets	Conduct annual inventory of Scope 1, 2, and 3 GHG 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 reviews and assessments to effectively reduce GHG emissions. For details, see <u>"GHG emissions and carbon emission intensity per unit product"</u>
rangete	Review climate management targets annually.	• The ELT regularly reviewed the performance of the ESG Task Force in implementing climate-related projects with various functional categories and confirmed the progress against metrics and targets.

Climate Governance

In July and November of 2023, the Board of Directors of TSRC held meetings on issues related to climate change, which were reported on by the CEO. The topics included transition and physical risk factors, the extent of climate risk, risk response strategies, targets and improvement measures and plans, and TSRC's transformation actions and opportunities. At the same time, the ESG Task Force reported quarterly in person to the ELT on the implementation of climate-related risks, including GHG reduction, use of renewable energy, improvement of water resource use, use of renewable raw materials, reduction of product carbon footprint, development of new products and new businesses, impact of physical risks, and mitigation of physical risks. The TSRC's climate-related risk management organizational structure is shown as follows:



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Climate-Related Risks and Opportunities

TSRC considered the types of risks and opportunities recommended by the TCFD, international assessments of sustainability indicators, and the climate risks of benchmarked industry peers. TSRC also considered the characteristics of the company's operations and evaluated climate risks and opportunities from three perspectives: potential impact level, likelihood of occurrence, and vulnerability. TSRC summarized 12 climate-related risks and 5 climate-related opportunities, including transition risks about policy and regulation, market, physical risks about extreme weather events, and opportunities about product and service.

To understand the impact of climate risks on TSRC's value chain, the ESG Task Force and employees at each site examined the level and scope of impact of each risk on TSRC's upstream suppliers, own operations, and downstream customers. Each department and supervisor ranked the level of impact of each risk in three groups: upstream suppliers, own operations, and downstream customers, using a three-point scale. The degree of impact of each risk was ranked by serial percentile, and the top 33.4% of the group was considered as high impact, 33.4% to 66.7% as moderate impact, and the bottom 33.3% as low impact to identify the degree of impact of climate risk on TSRC's value chain as a reference for business strategies.

To manage material climate risks, the ESG Task Force and employees from each business site in China, Taiwan, the United States and Vietnam further focused on the impact of climate risks on TSRC's own operations. Climate-related risks were scored based on the level of potential impact, vulnerability and likelihood of occurrence. Employees at each site were responsible for scoring the climate risks in their region, and the results were aggregated for further analysis and decision-making by the ESG Task Force. On this basis, the material climate risk scores of the local operating bases in four regions (China, Taiwan, the United States and Vietnam) were obtained, and the risk of each region was weighted based on the proportion of sales of each region to obtain the overall material climate risk scores for the entire Group. The scores were then ranked by serial percentile, with the top 20% as high risk and the bottom 40% as low risk, to complete the climate-related risk matrix for the entire Group. TSRC has integrated climate-related risks into its corporate risk management system and has listed the climate-related risk factors for priority attention in accordance with the criteria of "priority risks" in the Risk Management Operating Procedures, as shown in the "2023 Climate Risk Matrix". For details on TSRC's risk management system, see <u>4.1.2 Risk Management</u>.

TSRC conducts a full identification process of climate-related risks and opportunities every three years, and reassesses the "potential impact level" and "likelihood" of risk factors annually. This is to ensure the effectiveness of mitigation and adaptation planning, and to update the risk content, risk assessment, and countermeasures for risk management and disclosure accordingly. In 2023, TSRC's climate-related risk factors were the same as in 2022, including 6 transition risks and 6 physical risks. Compared with the assessment results of 2022, TSRC had adjusted the likelihood of occurrence for "increased cost of raw materials" in the transition risks and "increased severity of extreme weather events - heavy downpours" and "drought" in the physical risks.



Increased cost of raw materials

Considering the policies and regulations of major operating bases, as well as the short-term uncertainty of market demand for products using renewable raw materials, the likelihood of "increased raw material costs" is adjusted from short to medium term.



Increased severity of extreme weather events – torrential rain and drought

Considering the results of the physical risk analysis published by local government organizations at operating sites, TSRC adjusted the likelihood of "heavy rain" and "drought" from the medium term to the short term.

TSRC uses climate risk materiality analysis to identify climate risks and develop climate risk management strategies. TSRC conducts quantitative analysis of the impact of high risks, and then adjusts the company's business strategies based on the quantitative analysis results. TSRC will continue to expand the scope of quantitative risk impact assessments, analyze the financial impact of medium and low risks, review the company's risk tolerance, and formulate response measures. For detailed explanations of climate-related risks and opportunities and corresponding response measures, please refer to the <u>Appendix "Climate Related Risks and TSRC Response Measures"</u> and "Climate Related Opportunities and TSRC Response Measures".

After considering the impact of climate risk on TSRC's value chain and the significance of climate risk, the ESG Task Force discussed in detail the related opportunities, operational strategy adjustments, and response measures. After assessing the potential impact of climate-related risks and opportunities on TSRC's operations, response strategies and measures were formulated for confirmation by the ELT and implementation in daily operations and risk management procedures.



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Climate-Related Risks and Opportunities Identification and Management Process

Step 1 Step 2 Step 3 Step 3

Propose list of climate risks and opportunities

With reference to the risks and opportunities recommended by the TCFD, international sustainability indicators and industry benchmarks, and taking into account TSRC's business activities, the ESG Task Force held discussions to develop a list of TSRC's climate-related risks and opportunities.

Analyze the scope of impact of risks

The ESG Task Force and employees at each site examine the degree and scope of each risk's impact on TSRC's upstream suppliers, its own operations, and downstream customers. Supervisors and employees in each site use a three-point scale scoring methodology based on the degree of impact of climate risks in the value chain to identify them.

Identify materiality

The ESG Task Force distributes questionnaires to each site and functional department and scores them based on "potential level of impact," "potential vulnerability," and "likelihood of occurrence" to comprehensively identify the materiality of climate risks to TSRC's operations, create a risk matrix, and propose response strategies and measures.

Verify and report

The ESG Task Force reports the climate risks, related opportunities and response strategies, and risk matrix to the ELT, which will be endorsed by the ELT as follows.

Sustainability management and disclosure

The TSRC Board of Directors is responsible for monitoring climate risks and opportunities, the ELT is responsible for managing climate risks and opportunities, and the ESG Task Force is responsible for assisting the ELT in implementing climate-related risk and opportunity response measures and management activities, and for disclosing the status of climate risk and opportunity management to stakeholders annually in the Sustainability Report and on the company's website.

Value Chain Impact Level

Rating scale is 1-3, where 3 is the highest impact and 1 is the lowest impac

Top 33.4% considered high impact 33.4% - 66.7% considered moderate impact Bottom 33.3% considered low impact

Materiality Analysis

A total score is obtained by multiplying the three main aspects of "potential level of impact", "potential vulnerability" and "likelihood of occurrence". Using each region's share of sales as a weight, the risks of each region are weighted to obtain the overall risk score for the entire Group

> Top 20% considered high risk 40% - 80% considered moderate risk Bottom 40% considered low risk



Step 5

Step 4



Climate Risk Financial Impact Assessment

Taking into account the Company's business strategies and international carbon reduction trends and efforts, TSRC first assessed the financial impact of two transition risks: "Increased cost of GHG emissions" and "Increased sustainability requirements and regulations," after referring to examples of climate risk disclosures by domestic and overseas benchmark companies, as well as the urgency and clarity of the policy.

Increased cost of GHG emissions

As climate change continues to worsen, governments around the world continue to implement climate-related policies, such as the EU's Carbon Border Adjustment Mechanism (CBAM) and the expected domestic carbon emission fee. TSRC expects that the emission of greenhouse gases will have a financial impact in the short term. In view of the fact that the rate of the carbon fee in Taiwan has not yet been announced, TSRC will disclose the financial impact of the annual carbon fee to be paid by the Kaohsiung Dashe Factory after the rate is clarified. Related policies and regulations will affect not only TSRC but also upstream suppliers, and the cost of raw materials, equipment and electricity may gradually increase. Therefore, TSRC has studied the increase in upstream costs, climate-related draft policies, and customers shifting or reducing orders, and assessed the corresponding financial impact. For more details, please refer to the TSRC 2021 Sustainability Report.

Increased mandates and regulation of sustainability

As the world focuses more on sustainable development, TSRC is faced with sustainability and low-carbon regulations for rubber products proposed by various governments, as well as the need to meet the climate-related goals of existing and potential customers. In addition, TSRC needs to comply with the global shift to low-carbon energy sources and the disclosure of climate information. TSRC is considering low-carbon energy procurement and plant optimization measures in Taiwan, China, the U.S. and Vietnam, and continues to strengthen its carbon management planning in response to international sustainability trends.

Drought

As climate change worsens, drought conditions have increased in some production areas. For example, as the number of consecutive days without rain in the Kaohsiung area of Taiwan has been increasing year by year, the government has regulated industrial water consumption through the water status signal from the Water Resources Bureau, which has resulted in TSRC's Kaohsiung Factory purchasing additional water or adjusting production capacity to maintain stable production line operation when the water status signal is orange or red due to water restriction mechanisms. Contents

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Increased Mandates and Regulation of Sustainability

Increasing number of sustainable and low-carbon regulations for rubber products

Many countries have proposed regulations to improve vehicle fuel efficiency, and the rolling resistance coefficient of tires is key to improving vehicle fuel efficiency. For example, China has introduced the Corporate Average Fuel Economy (CAFE) standards, EU 2019/631 of the European Union's Green New Deal, and NHTSA CAFE standards in the U.S., all of which explicitly require vehicle manufacturers to improve vehicle fuel efficiency; in addition, the European Union and China have also formulated tire labeling regulations for tires, which require the reduction of the rolling resistance coefficient ratio of tires in order to improve vehicle fuel efficiency. In response to the global trend of low-carbon transformation, TSRC has continued to research and develop products with low rolling resistance coefficients, increasing TSRC's R&D expenditures and improving product performance. In addition, the European Union has drafted the Ecodesign for Sustainable Products Regulation (ESPR), which requires certain products (including tire-related materials) to improve the recyclability of products and use recycled materials to reduce the carbon footprint of the product value chain. It also requires an increase in the use of recycled raw materials to reduce the carbon footprint of the product. As a result of the regulatory requirements, TSRC has assessed that increasing the use of recycled or biobased raw materials may increase TSRC's R&D expenditures and raw material procurement costs.

Adherence to climate-related goals of current and potential customers

In response to the net-zero goals of some of TSRC's customers, it is expected that customers may impose more stringent carbon reduction requirements on their suppliers to reduce their Scope 3 emissions in the future. TSRC will gradually reduce its carbon emissions in the production process (TSRC's Scope 1+2 emissions), evaluate the reduction of TSRC's upstream transportation emissions (TSRC's Scope 3 emissions), and obtain more sustainable product certifications (e.g., ISCC Plus). Meanwhile, in response to pressure from customers to reduce carbon emissions, TSRC is using low-carbon fuels, optimizing manufacturing processes, and purchasing additional energy-saving equipment to reduce emissions from manufacturing processes, which may increase TSRC's purchasing costs and capital expenditures. TSRC will carefully evaluate costs and capital expenditures to take into account both operational resilience and corporate growth. TSRC also expects that the increase in low-carbon transportation and logistics in the future will increase operating costs. TSRC will also need to increase administrative expenses to obtain third-party certifications such as carbon inventories and sustainable product certifications.

Low-carbon energy transition trend

In response to the trend of low-carbon energy transition (e.g., the proportion of renewable energy needed to achieve net-zero emission targets in China and Vietnam, the proportion of renewable energy in Taiwan's net-zero path, and the proportion of renewable energy in Louisiana's net-zero path as stated in the IEA's NZE scenarios, etc.), TSRC will need to increase its own use of renewable energy by purchasing renewable energy sources, renewable energy certificates, and constructing its own renewable energy facilities. This will lead to changes in TSRC's energy costs and capital expenditures.



Increased disclosure requirements for climate information

In order to comply with climate information disclosure regulations (e.g., U.S. SEC, IFRS S2), TSRC will establish a comprehensive carbon management system, which will slightly increase TSRC's capital expenditures and carbon management costs.

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С	limate Scenarios	Factors for Considera	ation Asse	ssment Methodo	logy	Assum	ptions	Financial Impa	act Assessment	Action Pl	ans
ransition risks Increased cost of GHG emissions	A - Sustainable velopment Scenario /B2°C) A - Net Zero hissions by 2050 enario (NZE)	 Investment needs i the energy sector Global GHG emissis Pathways to low- carbon energy technology development Political, social, and economic risk trend and factors under climate change 	 Estimated carb charges, carbon for TSRC throu regulations 	oon emissions fee, n tariffs, and procu gh 2030 due to GH	electricity urement costs IG-related	Assumptions for warming conditio • Estimation of a limited to belo end of the cen • Estimates of g limited to less the end of the	r different ons: global warming ow 2.0°C by the atury global warming than 1.5°C by century	 Electricity cosincrease by 2 increased process will resproduction costs will resproduction costs will resproduction costs will resproposals: An such as carbon taxes Market challe CBAM, importo pay carbor customers to with lower caresulting in the customer transmission of the cust	sts may 030, and TSRC's ocurement ult in increased osts ted policy dditional costs on fees and to be paid enges: Due to ters are required tax, causing choose products rbon emissions, e possibility of nsfer	 Strengthen er management increase rene energy use Plan to work v suppliers that completed cli adaptation m Continually m progress of d and internatic climate-relate regulations Promote low- manufacturin Reduce carbo 	nergy and wable with have mate easures nonitor the omestic onal ed carbon g plans on
 TS Sti ha ca tar co (fd sc IEA En (N SB Increased andates and egulation of ustainability 	RC's Sustainability rategy Blueprint s set its own rbon reduction rget - 22.5% by 2030 mpared to 2021 or SBT below 2°C enario) A - Net Zero hissions by 2050 ZE) scenario (for iT below 1.5°C)	Differences in Carb Reduction Targets Pathways	 [Adherence to clipotential custom In response to curreduction targets, reduce carbon emprocesses, reduce upstream transpos sustainable produ The use of low- the optimization equipment to re production production pro- changes in TSF expenditures The use of low- logistics will als procurement or In order to obtat as sustainable expected to adj 	mate-related goal ers] stomers' net-zero of , TSRC must progra- nissions from its m e emissions from its m e emissions from its portation, and obtain uct certifications (II -carbon fuels and s n of existing proce educe emissions fit cess are expected RC's procurement a -carbon transporta so lead to changes osts ain third-party certi- product certificatio just its overhead co	s of current and carbon essively hanufacturing TSRC's in more SCC Plus): steam and esses and rom the to result in and capital tion and s in TSRC's fications, such on, TSRC is osts	 Assuming use to generate sta fossil fuels Electricity emisby region: Taiv unchanged aft is projected lin Vietnam and the projected to 20 	e of electricity eam instead of ission factor wan remains ter 2025; China hearly to 2030; the U.S. are both 022	 Use low-carb steam: Replation to the steam: Replation to the steam generated steam generated steam generated steam to the steam of the	oon fuels and with electrically eam will result in l expenditures of existing nd equipment: est in process nt improvements basis, resulting in bital expenditures abon on and logistics: nges in TSRC's costs rd-party broduct Increased sustainable fication will result e in the number s requiring by 2030, which TSRC's overhead id to an increase	footprint of pr • Develop supp of renewable materials	roducts liers raw

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	Climate Scenarios	Factors for C	Consideration	Asses	sment Methodolo	ogy	Assum	ptions	Financial Impa	ct Assessment	Action P	lans	
	 TSRC's Sustainability Strategy Blueprint has set its own carbon reduction target - 22.5% by 2030 compared to 2021 (for SBT below 2°C scenario) IEA - Net Zero Emissions by 2050 (NZE) scenario (for SBT below 1.5°C) 	Difference Reduction Pathways	es in Carbon Targets and	[Low-carbon ener In response to glob targets and low-ca (e.g., achieving net and Vietnam, Taiw net-zero path deve scenarios, etc.), TS renewable energy renewable energy certificates, and co energy facilities. TI energy costs and co	gy transition trend bal renewable energy rbon energy transfo- -zero emission targ an's net-zero path, lopment targets in RC will need to incl consumption share sources, renewable instructing its own his will lead to chan capital expenditures	gy development ormation trends jets in China and Louisiana's the IEA's NZE rease its own by purchasing e energy renewable iges in TSRC's	 Renewable en each region at the pricing me for electricity in that region, account mark demand, raw market size, a factors 	ergy prices in re based on ethodology consumption taking into et supply and materials, LCOE, nd other pricing	 The purchase energy and conserved TSRC's facilit Taiwan and t increases TS costs and resimanufacturin addition, the renewable en- in China and resulted in indi- expenditures 	e of renewable ertificates from ies in China, ne United States RC's energy ults in higher g costs. In construction of ergy facilities Taiwan has creased capital	 Strengthen energy management and increase renewable energy use Plan to work with suppliers that have completed climate adaptation measures Continually monitor the progress of domestic and international climate-related regulations 		
Transition risks				[Increased disclose information] In response to clirn regulations in varie U.S. SEC, IFRS S2, comprehensive cas improve the accur of the company's information. It incl carbon inventory a footprint-related ir lead to changes in carbon managem	sure requirements nate information di bus countries, such TSRC needs to esi rbon management acy, timeliness and nternal climate-rela udes the cost of co ind software licens formation systems TSRC's capital fini- ent expenses	for climate isclosure tablish a t system to d completeness ated onsulting, sing for carbon s, which will ancing and	• Assume that of and software remain fixed t	carbon inventory licensing costs hrough 2030	 Improve the atimeliness, a completeness internal climation: carbon consucarbon footp fees, and carl software licer TSRC's carbon costs, resultin operating exp 	accuracy, nd s of TSRC's ate-related Increases in ulting fees, rint verification boon footprint ases will increase in management ag in higher benses	 regulations Promote low manufacturii Reduce carb footprint of p Develop supp of renewable materials 	-carbon ng plans on products bliers e raw	
regulation of sustainability				 [Increasing numb regulations for ru Vehicle fuel effit CAFE standards Union's Green N standards in the (e.g., EU, China) efficiency to roll increased. TSR0 develop product coefficients, wh research and de The EU Ecodesig Regulation (ESP (including tire-rei the recyclability of materials and indiraw materials us of the product. T develop product increase the pro- bio-based raw m change in the est 	er of sustainable a bber products] ciency regulations s, EU 2019/631 of t lew Deal, and NHT e U.S.) and tire labe require that the ra- ing resistance coe C must continue to ts with low rolling r ich is expected to of evelopment costs. gn for Sustainable P R) requires certain p ated raw materials) of products, use rec crease the proportic ed to reduce the ca SRC is required to r s with recycling cha portion of recycled r inaterials used, which timated cost of TSF	e.g., China's he European SA's CAFE ling regulations tio of fuel fficient be research and resistance change TSRC's roducts to improve ycled raw on of recycled rbon footprint esearch and racteristics and materials and n will result in a RC's research	 As some polic not yet clear, a impact of the regulations or in the develop TSRC is only a qualitative imp stage 	ey details are and the financial relevant of TSRC is still ment stage, assessing the bact at this	 TSRC must c develop prod rolling resista which will inc R&D costs TSRC needs and develop p recycling cha and increase of recycled m bio-based raw which will inc R&D and prod 	ontinue to ucts with low nce coefficients, rease TSRC's to research products with racteristics the proportion taterials and v materials used, rease TSRC's curement costs			



Increasing Sustainability Requirements and Standards - Climate-Related Risks Pathways



Note: (1) CAFE : Corporate Average Fuel Economy; (2) NHTS: National Highway Traffic Safety Administration





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Metrics and Targets

In response to the impacts and challenges of climate change, TSRC has formulated short- and medium-term goals related to climate risk mitigation. The climate risk objectives are combined with the annual work goals of the operational team and linked through annual performance appraisals to effectively achieve them, and performance is driven by regular oversight by the Board of Directors.

Casla	Indiactoro	Corresponding Climate Risks and	2022 Ashiayamanta			Corresponding	
Goals	muicators	 Risks Opportunities 	2023 Achievements	2023	2025	2030	Chapter
Towards	Reduce total carbon emissions (scope 1+2; base year: 2021)	 Increased cost of GHG emissions Stigmatization of sector Adoption of more efficient manufacturing and transportation processes 	Total emissions reduced by 8.3% from base year (regional basis)	Total carbon emissions reduced by 5% from base year	Total carbon emissions reduced by 10% from base year	Total carbon emissions reduced by 22.5% from base year	2.1.1 Climate- related Strategy and Management
Goals	Increase the percentage of renewable energy	 Increased cost of GHG emissions Increased sustainability requirements and regulations 	Renewables accounted for 6.1% of total electricity consumption	Renewables accounted for 5% of total electricity consumption	Renewables account for 10% of total electricity consumption	Renewables account for 30% of total electricity consumption	<u>2.1.2 Energy</u> Management
Optimize	Improve wastewater recycling	 Increased sustainability requirements and regulations Stigmatization of sector Drought Rising average temperature 	Recycled wastewater accounted for 25% of the total wastewater	Recycled wastewater accounted for 25% of the total wastewater	Recycled wastewater accounts for 36% of the total wastewater	Recycled wastewater accounts for 40% of the total wastewater	2.4.2 Water Reuse and Recycling
Optimize Water Resource Usage	Increase use of reclaimed water	 Adoption of more efficient manufacturing and transportation processes 	Reclaimed water accounted for 22% of total water consumption	Reclaimed water accounted for 15% of total water consumption	Reclaimed water accounts for 34% of total water consumption	Reclaimed water accounts for 40% of total water consumption	2.4.2 Water Reuse and Recycling
Reduce the carbon footprint of products	Develop products that reduce environmental impact	 Increased sustainability requirements and regulations Changing customer behavior Developing products and services with low carbon emissions or low environmental impact Develop products related to climate adaptation 	Developed a new generation of synthetic rubber for green tire/shoe materials, reducing environmental carbon emissions by 200,000 tons based on sales contribution	Developed a new generation of synthetic rubber for green and electric vehicle tires/ shoes, reducing carbon emissions by 150,000 tons based on sales contribution	Develops a new generation of synthetic rubber for green and electric vehicle tires/shoes, reducing carbon emission by 300,000 tons based on sales contribution	Develops a new generation of synthetic rubber for green and electric vehicle tires/ shoes, reducing carbon emission by 1.5 million tons based on sales contribution	<u>2.2.1 Lifecycle</u> Design

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Goals	Indicators	Corresponding Climate Risks and Opportunities	2023 Achievements		Milestones		Corresponding
		▲ Risks ● Opportunities		2023	2025	2030	Chapter
		 Increased sustainability requirements and regulations Changing outstance behavior 	Evaluated green foam product options and developed products for more applications	Developed green foam products that reduce environmental impact	Develops green foam products with reduced environmental impact and recyclability	Develops green foam products using renewable resources to reduce environmental impact and increase recycling rates	2.2.1 Lifecycle Design
Reduce the carbon	Develop products that reduce environmental impact	 Changing customer behavior Developing products and services with low carbon emissions or low environmental impact Develop products related to climate adaptation 	Specialty styrene block copolymers (SBCs) have been developed and successfully marketed for medical treatment, footwear materials and plastic modification	Development of specialty styrene block copolymers (SBCs) used in medical devices, footwear materials and plastic modification that are recyclable and reduce medical waste	Develops a new type of SBC to help customers reduce process energy consumption and eliminate the use of organic solvents	Develops TPE products for medical use and, depending on the sales contribution, reduce the amount of medical waste by 10% compared to the previous generation of products	2.2.1 Lifecycle Design
footprint of products	Product process optimization	 Cost of transition to lower emission technology Use of more efficient production and transportation processes 	Optimized TPE product manufacturing process to reduce steam consumption and carbon emissions by 3,185 metric tons in 2023 compared to the previous year	Optimize TPE product manufacturing process to reduce steam usage (to reduce carbon emissions by 1,800 metric tons per year)	Optimize the manufacturing process of TPE products to reduce process performance and energy consumption	Reduce power and energy consumption in the TPE product manufacturing process (reduce carbon emissions by 9,000 metric tons per year)	<u>2.1.2 Energy</u> <u>Managemen</u>
	Use of renewable raw materials ^{Note 1}	 Increased sustainability requirements and regulations Increased raw materials costs 	Signed Memorandums of Understanding with two renewable feedstock suppliers to collaborate on renewable feedstocks	Develop renewable raw materials suppliers	Renewable raw materials account for 5% of total raw material purchases	Renewable raw materials account for 15% of total raw material purchases	2.2.1 Lifecycle Design

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Note 1: Renewable raw materials: (1) Crops (2) Raw materials (3) Waste of other products

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Chapter 4

Governance

2.1.2 Energy Management

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GHG Emissions Reduction

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

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. In 2023, the total amount of renewable energy reached 6.1%^{Note 1} of total electricity consumption, achieving the set target.

As a manufacturer of specialty chemicals, TSRC prioritizes the reduction of Scope 1 and Scope 2 GHG emissions. TSRC optimizes its processes and utility systems and expanding its 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 plants to replace fuel oil with natural gas. No fuel oil was used in the entire TSRC Group. From 2022, 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. 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 its long-term goal to achieve carbon neutrality.

In 2023, TSRC's total Scope 1 and 2 (regional) GHG emissions were 514,168.48 metric tons of carbon dioxide equivalent, a decrease of 8.3% from the 2021 baseline. TSRC did not use any carbon offset measures in 2023. The main reduction is due to the reduction of the power coefficient of non-renewable energy sources purchased in Scope 2 and the reduction of purchased steam by recovering steam from the plants' waste gas. Kaohsiung Factory, Shen Hua Chemical and Nantong Industries achieved the most significant results. In 2023, TSRC implemented a total of 12 energy conservation and efficiency improvement action plans, saving 630,164 kWh of electricity, 5,744 tons of steam, and 176,737 cubic meters (M³) of natural gas, for a total reduction of 2,586 tons of carbon dioxide equivalent. In 2023, TSRC's Scope 1+2 carbon emission intensity per unit product decreased slightly to 0.97 (metric tons of carbon dioxide equivalent per metric ton of product) compared to the base year of 2021.

Note 1: Renewable energy as a percentage of total electricity consumption = (renewable energy (self-generated electricity) + renewable energy (purchased electricity) + green power certificates) / (renewable energy (self-generated electricity) + renewable energy (purchased electricity) + non-renewable energy (purchased electricity) + non-renewable energy (self-generated electricity)).

Direction 1: Low-Carbon Processes

TSRC is committed to promoting energy conservation and carbon reduction. All plants optimize their process operations and utility systems and invest in high-efficiency equipment as the main direction of carbon reduction. TSRC reduces electricity and steam consumption by replacing energy-consuming equipment, installing energysaving devices, and installing steam extraction and heat recovery technologies.

Optimizing Process Operations

TSRC promotes the optimization of process carbon reduction targets by adjusting

- Adjusted the operation of the raw material storage cooling system and isolated the idle cooling units of the raw material storage system to reduce unnecessary energy consumption, resulting in electricity savings of 302,400 kWh (1,089 GJ).
- Proactively developed the integration of synthetic rubber product manufacturing process optimization, recycled process hot water to reduce the amount of purchased steam, reduced steam consumption, and improved energy efficiency, reducing steam consumption by 4,350 metric tons (12,903 GJ) and increasing electricity consumption by 59,400 kWh (214 GJ).
- Continuously optimized production processes to reduce steam consumption by 1,388 metric tons (4,117 GJ).

Total electricity savings of 243,000 kWh (875 GJ), steam savings of 5,738 metric tons (17.020 GJ), and annual emissions reduction of 1,987 metric tons of CO₂ equivalent



Optimizing Utility Systems

For lighting systems, air conditioning and optimized operating conditions to save

- Reduced purchased electricity by 11,026 kWh (40 GJ) by installing solar power generators.
- Reduced purchased electricity by 339,900 kWh (1.224 GJ) by proactively replacing old equipment with new energy-saving equipment and optimizing operations.
- Reduced electricity consumption by replacing old lighting systems with new ones. Achieved energy savings of 10,858 kWh (39 GJ) of purchased electricity.

Total electricity savings of 361,936 kWh (1.303 GJ) and annual emissions reduction of 350 metric tons of CO₂ equivalent.



Investing in High-Efficiency Equipment

TSRC actively invests in highly energyefficient process equipment to reduce energy

- In 2023, the new thermal oxidizer (TO) with heat recovery saved 130,366 M³ (4.367 GJ) of natural gas and increased electricity consumption by 127,594 kWh (459 GJ).
- Replacement of dry-bed coolers saved 46,371 M3 (1,553 GJ) of natural gas and reduced steam consumption by 6 tons (18 GJ).
- Reduced purchased electricity by 164,000 kWh (590 GJ) by proactively replacing old equipment with new energy-efficient equipment and optimizing operations.

Total electricity savings of 36,406 kWh (131 GJ), total natural gas savings of 176,737 M³, steam consumption reduced by 6 metric tons (18 GJ), and annual emission reduction of 308 metric tons of CO₂ equivalent.



Notes:

- 1. 1 kWh = 1 kilowatt hour, 1W = 1 J/S, 1,000 kWh = 1000kW*3600S/H = 3,600,000 KJ = 3,600 MJ.
- 2. Except for Nantong Industries and TSRC-UBE, which were calculated on the basis of 2.96626 GJ of heat absorbed by evaporation of one metric ton of water, the other factories were calculated on the basis of 2.26 GJ of heat to be absorbed by evaporation of one ton of water.
- 3. The source of the fuel coefficient in this table is natural gas 1M3=0.033496 GJ, from the Environmental Protection Administration GHG Emission Factor Management Table Version 6.0.4.



Direction 2: Renewable Energy

TSRC plans to build its own solar power, purchase green power contracts, renewable energy certificates or other means to gradually increase the proportion of renewable energy in its production sites in Taiwan and China, and achieved the target of 6.1% of total electricity consumption in 2023, exceeding the original target of 5% in 2023. In the future, the share of renewable energy is expected to reach 10% by 2025 and 30% by 2030 to achieve carbon reduction.

In 2023, our subsidiary Nantong Industries signed a contract with power suppliers to purchase green power and green power certificates, and started using 10 million kWh of renewable energy and purchasing 6 million kWh of green power certificates in 2023. In response to Taiwan's "Renewable Energy Development Act" and "Regulations for the Management of Setting up Renewable Energy Power Generation Equipment of Power Users above a Certain Contract Capacity," TSRC completed the installation of solar power generation facilities at its Kaohsiung Dashe Factory site at the end of 2023 and began to generate electricity. Beginning in 2024, TSRC's subsidiaries in China will increase the proportion of renewable energy use to achieve the annual renewable energy use targets.

Statistics on GHG emissions and GHG emissions intensity per unit product



Notes:

- 1. This table covers seven greenhouse gases: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride. The GWP value for 2020-2021 is from the IPCC AR5, and the GWP value for 2022-2023 is from the IPCC AR6.
- The greenhouse gas emissions data for 2020 covers TSRC's Global Business Headquarter, Kaohsiung Factory, Gangshan Factory, Shen Hua Chemical, Nantong Industries, TSRC-UBE, Shanghai Industries, TSRC (Vietnam) Co., Ltd., and TSRC Specialty Materials LLC. It does not include two holding subsidiaries, Polybus and TSRC (Lux.), which are mainly engaged in trading business and were newly included in the scope of reporting in 2022. The operational control approach is adopted. Only the data of Kaohsiung Factory and Gangshan Factory were verified by a third party.
- 3. The reporting boundary of 2021-2023 covers all factories and subsidiaries identical to the reporting scope of this report. The operational control approach is adopted in accordance with ISO14064:2018. Verification conducted by DNV GL Business Assurance Co., Ltd. (DNV) in 2023. The data is rounded to the second decimal place. Verification Statement please refer to TSRC website.

4. The emission factors are from:

- [Taiwan] the global business headquarter, Kaohsiung Factory and Gangshan Factory: Use emission factors published by Taiwan Environmental Protection Agency (version 6.0.4).
- [China] Shen Hua Chemical, Nantong Industries, TSRC-UBE, and Shanghai Industries: Use 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.

[Vietnam] TSRC (Vietnam) Co., Ltd.: Use the electricity emission factors published by Vietnam Ministry of Industry and Trade and Vietnam Ministry of Natural Resources and Environment and the IPCC assessment reports.

USA] TSRC Specialty Materials LLC: Use US Environmental Protection Agency database and the IPCC assessment reports.

5. Restatements of information: Greenhouse Gas Emissions in 2022 were restated due to verification of data, Scope 1 emissions of 138,447 metric tons of CO₂e were changed to 138,263.75 metric tons of CO₂e, the degree of change accounts for 1.32 x 10³ of the original Scope 1 emissions. Scope 2 emissions of 408,181 metric tons of CO₂e changed to 407,234.28 metric tons of CO₂e, the degree of change accounts for 2.32 x 10³ of the original Scope 1 emissions. Scope 2 emissions of 546,628 metric tons of CO₂e changed to 545,498.03 metric tons of CO₂e, the degree of change accounts for 2.07 x 10³ of the original Scope 1+2 emissions.

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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 indirect emissions with materiality, including Category 3 (indirect GHG emissions from transportation) and Category 4 (indirect GHG emissions from products used by an organization). Category 3 increased by 12.09% in 2023 compared to 2022 due to an increase in raw material purchases as a result of increased production at the TSRC-UBE, Shanghai and Vietnam factories, which resulted in an increase in upstream transportation emissions; Category 4 decreased by 0.04% compared to 2022.

Other Indirect GHG Emissions in 2023



Notes:

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 2022-2023 is from IPCC AR6.

2. The 2021 data covers all plant areas and subsidiaries within the reporting boundary of this report. The inventory was performed in accordance with ISO14064: 2018, and the data was verified by a third party and rounded to the second decimal place.

2023 TSRC GHG Reduction Actions

Reduction Measures and Performance

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Indirect Emissions from Energy (Scope 2)

Indirect GHG Emissions (Purchased Energy and Steam)

- Seven electricity conservation measures were implemented in 2023, saving a total of 817,158 metric tons of steam (2,942 GJ), equivalent to reducing carbon dioxide emissions by 443 metric tons.
- In 2023, three steam-saving measures will be implemented, saving a total of 5,744 tons of steam (17,038 GJ), equivalent to reducing carbon dioxide emissions by 1,839 tons.
- In 2023, TSRC Kaohsiung Factory was equipped with additional solar power generation equipment, saving a total of 11,178 tons of steam (40 GJ), which is equivalent to reducing carbon dioxide emissions by 6 tons.
- Note: TSRC Kaohsiung Factory's solar power generation started operation in December 2023, so the total amount of electricity generated is lower.

Other Indirect Emissions (Scope 3)

Indirect GHG Emissions (Value Chain)

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

- 1. The increase in butadiene feedstock purchased by TSRC and the decrease in butadiene recovered from ballast tanks.
- 2. Increase in raw material purchases due to increased production in Shanghai and Vietnam.

The reasons for the decrease/increase in Category 4 are explained below:

- Decrease in emissions from energy-related activities (natural gas and purchased electricity) due to lower production at TSRC Specialty Materials LLC and Nantong Industries.
- 2. Shen Hua Chemical's Polymerization A line was shut down for maintenance in February, and the reactor, stripping column and flash drum were opened for cleaning, as well as the annual maintenance of the three lines in August, which resulted in an increase in solid waste.

Improving Energy Efficiency

TSRC refers to the ISO 50001 energy management system structure and adopts the PDCA model to periodically analyze energy use and consumption by 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.

TSRC's global operations continue to implement measures to improve energy efficiency and reduce energy consumption. In addition to innovating low-carbon processes and replacing process equipment to achieve carbon reduction targets, major plants and subsidiaries (Kaohsiung Factory, Shen Hua Chemical, Nantong Industries and TSRC-UBE) have set annual energy saving targets. Only Kaohsiung Factory, Shen Hua Chemical and TSRC-UBE failed to meet the target in 2023, while the other plants met the target. The failure to meet the targets was mainly due to the increase in electricity and steam consumption as a result of the change in production volume, additional equipment, and the increase in cooking changeover time and pre-opening heat transfer to meet environmental protection requirements.

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Energy Saving Targets and Achievements of TSRC Key Factories and Subsidiaries

Key factories and subsidiaries	Energy Conservation Targets for 2023	2023 Target Achievement	Description and Improvement Plan	2024 Goals
Kaohsiung Factory	 Reduce electricity use by 750,000 kWh/year Reduce steam use by 250 tons/year 	 Increase electricity use by 2,794,910 kWh/ year Increase steam use by 15,529 tons/year 	• Difference in electricity and steam consumption from the estimate due to changes in production and self-generated electricity. Increase in self-generated electricity by 37% in 2023 compared to 2022, resulting in 41% increase in electricity and 42% increase in steam.	 Reduce electricity use by 750 MWh/year Reduce steam use by 250 tons/ year
Shen Hua Chemical	 Electricity use per unit product ≤ 303 (kWh/ton) Steam use per unit product ≤ 1.14 (ton/ton) 	 Electricity use per unit product ≤ 310 (kWh/ton) Steam use per unit product ≤ 1.15 (ton/ton) 	 Electricity consumption has increased due to the addition of new exhaust gas heat exchanger, exhaust fan, and water-cooled fan. In addition, due to the increase in production volume in 2023, the production line was not refueled for a long period of time, which also led to an increase in electricity consumption. To comply with the environmental protection requirements, the cooking changeover time and pre-opening heat transfer were increased, resulting in an increase in steam consumption. In addition, due to the increase in production volume in 2023, production was conducted without the addition of gel grease for a long period of time, which also resulted in an increase in steam consumption. 	 Electricity use per unit product ≤ 310 (kWh/ton) Steam use per unit product ≤ 1.14 (ton/ton)
Nantong Industries	 Comprehensive energy consumption (tce) ≤ 42,750 Combined energy consumption per unit product ≤ 0.592 (tce/ton) 	 Comprehensive energy consumption (tce) = 39,423.31 Combined energy consumption per unit product ≤ 0.591 (tce/ton) 	• Goal achieved.	 Comprehensive energy consumption (tce) ≤ 42,900 Comprehensive energy consumption per unit product≤ 0.588 (tce/ton)
TSRC-UBE	 Comprehensive energy consumption (tce) = 25,470 Comprehensive energy consumption per unit product ≤ 0.382 (tce/ton) 	 Comprehensive energy consumption (tce) = 26,519 Comprehensive energy consumption per unit product ≤ 0.392 (tce/ton) 	 In 2023, mainly to maintain the stable operation of RTO furnace, there was an increase of steam consumption by 0.20t/t-BR, increase of steam consumption by about 13,500t and increase energy consumption by about 1,230 tce. Prevention and Improvement Measures: Based on the operation of the new RTO furnace, adjust the amount of coalescing and stripping steam added to effectively reduce the use of steam and reduce energy consumption. 	 Comprehensive energy consumption (tce) ≤ 26,100 Comprehensive energy consumption per unit product ≤ 0.390 (tce/ton)
Shanghai Industries	 Summer electricity use per unit product < 422 (kWh/ton) Non-summer electricity use per unit product < 410 (kWh/ton) 	 Summer electricity use per unit product of 417 (kWh/ton) Non-summer electricity use per unit product of 403 (kWh/ton) 	• Goal achieved.	 Summer electricity use per unit product < 415 (kWh/ton) Non-summer electricity use per unit product < 410 (kWh/ton)
TSRC (Vietnam) Company Limited	 Electricity use per unit product ≤ 1,130 (kWh/ ton) 	 Electricity use per unit product = 865 (kWh/ ton) 	Goal achieved.	 Electricity use per unit product ≤ 1,100 (kWh/ton)

Note: This table is the result of the annual target set by each company based on the current situation and summed up at the end of the year according to the quantitative performance of the actual energy saving projects.

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TSRC Group's total energy consumption in 2023 was 5,042,279.98 gigajoules (GJ), a decrease of 1.93% compared to 2022. In 2023, TSRC's purchased steam decreased by 5.99% compared to 2022, purchased non-renewable electricity decreased by 6.86% compared to 2022, and the use of renewable energy increased, resulting in an energy intensity per metric ton of 9.50 GJ per metric ton of 9.

Energy consumption





Total energy intensity per unit product (gigajoule / metric ton of product)

Note:

1. Direct energy use 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 in 2021-2023.

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- 2. Indirect energy consumption includes: Purchased electricity (including renewable and non-renewable), purchased steam, and self-generated electricity (including renewable and non-renewable).
- 3. Total energy consumption = internal energy consumption = direct energy consumption + indirect energy consumption. Includes renewable and non-renewable energy sources.
- 4. Total energy intensity per unit product = total energy consumption (GJ) / product production (metric tons).
- 5. The graph is rounded to the second decimal place.
- 6. The table uses the following conversion units:
- 1 kWh = 1 kilowatt-hour, 1W = 1 J/S, 1,000 kWh = 1000kW*3600S/H = 3,600,000 KJ = 3,600 MJ.
- For the 2023 data, except for Nantong Industries and TSRC-UBE, which were calculated based on 2.96626 GJ of heat to be absorbed by vaporizing one metric ton of water, the other factories were calculated based on 2.26 GJ of heat to be absorbed by vaporizing one metric ton of water.
- 7. Restatements of information: TSRC Group's direct energy consumption data in 2022 is revised based on verification, and the indirect energy consumption value is changed due to the change of the unit conversion factor of TSRC purchased steam.

2.2 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 in the production process with a focus on product safety, thereby reducing the negative environmental impact of the product life cycle. In 2023, sustainable products^{Note 1} accounted for 3.4% of total product sales, and TSRC signed memorandums of understanding with two renewable raw material suppliers for cooperation on renewable raw materials. In the future, TSRC will continue to expand suppliers of recyclable raw materials, and reduce the carbon footprint of products. We will continue to develop chemicals and solutions that are non-toxic and non-hazardous to the environment and human beings. We plan for sustainable products to account for 40% of its total product sales by 2030, and renewable raw materials^{Note 2} will account for 15% of its total raw material purchases by 2030, demonstrating TSRC's continuous innovation and green foresight.

Notes

- 1. TSRC Sustainable Products: (1) Reduce: Reduced carbon intensity / reduced environmental impact / reduced energy consumption in customer processes / (2) Renewable: products that use renewable raw materials / (3) Recycle: Products that can be recycled and reused / (4) Replace: Safe replacement for other products.
- 2. TSRC Renewable Raw Materials: (1) Crops (2) Raw materials (3) Waste of other products.

2.2.1 Lifecycle Design

In response to the 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 the carbon footprint, increase product value, and help customers reduce energy consumption and the use of organic solvents in their processes. This will further reduce GHG emissions and make us an important partner for our customers in achieving their carbon reduction goals.

TSRC Green Strategies for the Product Lifecycle



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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 from the "raw material procurement" and "product manufacturing" stages. TSRC will conduct annual carbon footprint audits for major products based on customer requirements. From 2023, 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 its 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 its 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 its 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 the products to reduce rolling resistance and improve fuel utilization efficiency in order to reduce GHG emissions during the tire use phase.

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

• Continue to reduce product of	arbon footprint		Use renewable materia	als in production and operations
Product Category	Environmental Benefits Generated by Products	-01 $02 \rightarrow$	Product Category	Environmental Benefits Generated by Products
• TSRC's new generation synthetic rubbers (e.g. TSRC SSBR products) and easy-to-process rubbers	 Reducing tires rolling resistance by 10% makes tires more wear-resistant and improves vehicle fuel efficiency, which helps reduce carbon emissions from vehicle operation. Based on 2023 sales volumes, the new generation of synthetic rubber reduced carbon dioxide equivalent (CO2e) emissions by approximately 200,000 metric tons. Easy-to-process rubbers help customers reduce energy consumption during the processing stage, with 2023 sales up 21% from 2021. 	Reduce Renewable	• All TSRC products that use renewable materials (e.g. BIO- BD, BIO-IPM, etc.)	• The use of renewable materials can reduce the use of upstream fossil fuel-based materials, thereby reducing greenhouse gas emissions from the raw material side.
 Use eco-friendly chemicals substances in the production TSRC products can safely replaced 	that are harmless to the environment or human health to replace other hazardous and operation process place other products that have negative environmental impacts		Use recycled or circula possibleMake efforts to increase	r raw materials in production and operations wherever se the recyclability and circularity of products
Product Category	Environmental Benefits Generated by Products	Replace	Product Category	Environmental Benefits Generated by Products
General purpose, high liquidity, medical grade SEBS	• SEBS can replace vulcanized rubber in high performance applications, eliminating the use and residues of vulcanized rubber additives and plasticizers.		Highly liquid SEBS	 SEBS polymer has excellent liquidity, compatibility with polyolefins, and is the ideal increasing for Part Computer Deputied (ICD)
 T-Blend Green Foaming Product Series Hydrogenated Styrenic Block Copolymer (HSBC) 	 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 (e.g., ISO 10993-5, USP Class VI, and medical GMP), and also has recycling value. TSPC has developed europrecipical fluid fragming (SCE) products that do not use 	TSRC 4R Core Values and Related Products	• SBS, SIS, SEBS	 SBC with thermoplasticity makes it easy to recycle after processing, helping to recycle/reuse products.
 Supercritical Fluid (NSCF) foaming material products Co-Extrusion protective film products SERS 	 For the last developed supercinitian inductioning (conf) process, which requires less energy and reduces the processing time for customers. TSRC uses co-extrusion to manufacture protective film products that do not require the use of solvents or secondary coating processes. SEBS products help customers improve the compatibility of recycled material. 	-04 03-	T-Blend Green Foaming Product Series	• T-Blend is a physical foaming technology used in footwear midsoles to improve the recycling rates.
	formulations and product properties, and can be blended with post-consumer recycled (PCR) pellets.			

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2.2.2 Product Stewardship and Chemical Management

TSRC is committed to product stewardship and chemical management. In addition to complying with international regulations, TSRC has established internal management policies, management systems, and risk management measures. In 2023, TSRC complied with the requirements of the REACH regulation on SVHC information transmission, and the SVHC inventory rate of TSRC products reached 100%. TSRC has not experienced any serious environmental incidents or serious recordable incidents related to chemicals. From 2024, TSRC's chemical management goals will be linked to the TSRC Group's Health, Safety and Environment (HSE) goals.

Hazardous Substance 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 of 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.

Risk Assessment and Management Measures

Hazardous Substance Management System

The Kaohsiung Factory in Taiwan established the QC 080000 Hazardous Substance Management System in 2011, and the management review meeting of the QC 080000 Hazardous Substance Management System is held annually. The management representative (plant 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 plants 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.

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. Regarding the health and environmental hazards of the Globally Harmonized System of Classification and Labeling of Chemicals (GHS) categories 1 and 2, TSRC does not produce any of these substances at any of its global production sites^{None}. However, we do use them in the raw materials. TSRC does not use substances classified as acutely toxic, but it does 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 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.

TSRC's risk control and mitigation measures include the use of low-toxicity chemicals in the manufacturing process through process modification by the Research and Development Department (such as the use of cyclohexane instead of benzene), the use of flange protection covers for strong acid and alkali pipelines, corrosion and leakage prevention in pumping areas, annual self-monitoring of soil and groundwater through monitoring wells, hazard analysis and control in process safety management, secondary leakage prevention and control (such as spillage and rainwater pollution control), analysis of chemical operation analysis and control, proper wearing of personal protective equipment (PPE), and training in respiratory protection, secondary leakage prevention and control (such as spillway and storm water pollution diversion), chemical operations analysis and control, proper use of personal protective equipment, respiratory protective equipment drills (such as A-level protective clothing and self-contained breathing apparatus (SCBA)), fire suppression equipment and effective maintenance, and emergency response planning, implementation, review, and improvement.

None: TSRC's global manufacturing sites produce substances that are classified as hazardous to health or the environment under GHS Category 1 and 2, corrosive or irritant (such as strong acids or alkalis), respiratory or allergenic, carcinogenic or mutagenic (such as cyanides), or acute or chronic aquatic toxicant. See the Appendix for details: Sustainability Data.

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TSRC Chemical Risk Mitigation Measures

	TS	RC
01	Managemei	nt Measures
~~	Elimination Modify the original design to directly eliminate the hazard	
	Substitution Reduce hazards by replacing equipment, raw materials, systems, etc.	Change processes and switch to less toxic chemicals
03		Use flange protectors on strong acid and alkaline
	Engineering Improvement Reduce hazards by using engineering controls and devices	 Corrosion and spill prevention of pump area floors Secondary spill control (e.g., overflow berms and proper separation of stormwater and sewage)
	Safety Management Use of labeling, warning, and administrative methods to reduce risks	 Soil and groundwater monitoring through annual monitoring wells Hazard analysis and control for process safety management Analysis and control of chemical operations Emergency response drills
0.5	Line of Devocatel	
	Protective Equipment Practical use of protective	 Ensuring the use of personal protective equipment Training in the use of respiratory protection Fire equipment preparation and maintenance
	equipment to reduce the risk of exposure	

For toxic substances and hazardous chemicals for which there are currently no substitutes, TSRC actively manages the procurement, transportation, use, storage, and disposal of materials at all stages, with a comprehensive management process to ensure the safe use of chemicals.

rocurement f Major Raw Materials	TSRC emphasizes transportation safety by using underground pipelines, reducing chemical spills and GHG 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.
$\mathbf{\nabla}$	
Storage	Monitoring and management by 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, joins the Pipeline Joint Management Organization with neighboring pipeline operators, and participates in the organization's drills every year. TSRC also conducts pipeline drills with the raw material supplier, CPC, to ensure emergency response in case of abnormalities in the underground pipelines. Nantong Industries cooperates with butadiene storage facilities, 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 the remedial measures for the negative impacts, to minimize the negative impacts on the environment and society after the occurrence of environmental emergencies.

Product Safety Management

TSRC has also established "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 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.

2.3 Enhance Waste Management

TSRC optimizes the process conditions within the plants to precisely control material input and reduce waste production. TSRC also actively promotes the recycling of by-products within the factories and exploring the utilization of waste outside the factories by collaborating with upstream and downstream value chain partners and other industries. All measures aim to transform waste into valuable resources, expand the secondary raw materials market, and implement the concept of circular economy.

2.3.1 Waste Management

Waste Lifecycle Management

TSRC's main production activities include the polymerization, hydrogenation, and synthesis of primary petrochemical materials (including butadiene and styrene) to produce rubber and chemical materials. During processing and polymerization, organic compounds are added to improve product performance, resulting in waste rubber, waste liquid, sludge, and waste oil.

TSRC refers to the basic principles and structure of the ISO 14001: 2015 environmental management system 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 in each plant 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 and Gangshan factories conduct guarterly reviews of the effectiveness of waste reduction, while Nantong Industries, Shen Hua Chemical, and TSRC-UBE track the amount of waste produced and the reduction targets on a monthly basis. Starting in 2024, TSRC Global HSE will collect waste data from each plant every month to review and track management performance on a monthly basis.

If TSRC Group's waste can be reused in the plants, it will be used as input materials in the manufacturing process. If in-site reuse is not possible, the waste will be commissioned to gualified waste disposal companies for final disposal or out-of-plant reuse. For wastes that cannot be avoided due to technical bottlenecks, the final disposal is mainly by 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 with high standards in comply with 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 removal and disposal companies.

TSRC Waste Lifecycle Management

Waste neration	Commitment to source reduction, de processes	evelopment of rene	wable raw materials	s and optimization of manufacturing
	Reporting in Accordance with Governme	ent Regulations	Int	ternal Group Management
Vaste nitoring	 [Kaohsiung Factory] [Gangshan Factory to the Ministry of the Environment's "Increment and Management Information S amount of temporary stockpiles, the outhe amount of waste removed by waste [Nantong Industries] [TSRC-UBE] [Shen Through the system of "Hazardous Wa Platform" in Jiangsu Province, China, the manages the generation, storage, trans disposal of hazardous waste on a daily compiles the data of general industrial monthly basis. [TSRC Specialty Materials] [Shanghai In [TSRC (Vietnam) Co., Ltd.'s]: Monthly compared the generation records provided by waste plants and annual reporting to the government of the second standard standa	 Anothly report dustrial Waste system" on the itput amount, and e removal vendors. Hua Chemical]: ste Life Cycle ne company sportation, and basis, and solid waste on a and solid waste on a 	 The TSRC Group waste managen [Kaohsiung Fact goals and condu of waste reducti [Nantong Indust Set annual goals reduction target 	o holds at least one ESG production and nent meeting per quarter. (ory] [Gangshan Factory]: Set annual uct quarterly reviews of the effectiveness ion. (ries] [TSRC-UBE] [Shen Hua Chemical]: a and track waste production and s on a monthly basis.
	Audit	Vehicle	Tracking	Require the submission of disposal reco
/aste sposal	 [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]: Document audits and year-end evaluations are used as a reference for the selection of the following 	 [Gangshan Factor vehicle tracking f [Shen Hua Chem arrival and depar transport vehicle 	ory]: Conducts from time to time. ical]: Track the ture times of s.	 [Nantong Industries] [TSRC-UBE]: Require the operators to regularly submit the disposal records. [Shanghai Industries] [TSRC (Vietnam) Co., Ltd.'s]: Require the operators to track the flow of waste disposal through online reporting.

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Waste Generation and Recycling

In 2023, the total weight of TSRC's general industrial waste (including non-recyclable, reusable, and recyclable) was 3,602.57 metric tons. Although the amount of scrap steel produced by Nantong Industries increased due to the replacement of old equipment, and the amount of waste produced by Shanghai Industries was higher than that of 2022, the total weight only increased by 0.95% compared to 2022^{Note} due to the active implementation of reduction measures in other plants. Among the general industrial waste, the proportion of reusable and recyclable waste to the total amount of general industrial waste generated was 72.37%, indicating that most of the waste could be reused through recycling, while only 27.63% of the general industrial waste was subject to incineration, thermal treatment and other final treatments.

In terms of hazardous industrial waste, the total weight of hazardous industrial waste (including non-recyclable and recyclable) in 2023 was 2,802.79 metric tons, an increase of 18.75% Note compared to 2022, which was mainly due to the increase in sludge caused by the dredging of the accident pool and the increase in the dosage of polymerized alumina chloride (PAC) in the air flotation tank of Nantong Industries. Shanghai Industries and TSRC (Vietnam) Co., Ltd.'s hand an increase in the weight of hazardous waste due to increased production. In 2023, TSRC's hazardous industrial waste recycling volume was 826.90 metric tons, and the percentage of hazardous industrial waste recycling in the hazardous industrial waste production was 29.50%, a slight decrease from 30.25% in 2022. The recycling items are mainly waste oil, waste packaging materials, waste packaging barrels, and waste chemicals from the plant in China. TSRC will continue to increase the proportion of recycling in the future to minimize the impact on the environment.

Overall, TSRC's waste generation per unit product in 2023 was 12.06 metric tons per 1,000 metric tons of product production, an increase of 9.8% compared to 2022^{Note}. In the future, we will continue to strengthen waste management measures through reduction and resource recovery and reuse. For more details of each subsidiary please refer to the Appendix.

Note: For the data restatement on the amount of general industrial waste and hazardous industrial waste, and the amount of hazardous industrial waste recycled and treated in 2022, please refer to the note below.

Waste Generation



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Note:

- 1. This table only includes factories and subsidiaries with manufacturing activities within the reporting boundary. The two trading-based subsidiaries, Polybus and TSRC (Lux.), as well as the office-oriented Global Business Headquarter and TSRC Specialty Materials LLC office, generate only general domestic waste, not industrial waste.
- 2. The data source for all factory is the waste removal and disposal (transfer) records provided by waste treatment manufacturers, rounded to the second decimal place. TSRC Kaohsiung Factory, Gangshan Factory, Nantong Industries, TSRC-UBE, Shen Hua Chemical report to the government waste platform every month, while 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.
- 3. TSRC Gangshan Factory, Shen Hua Chemical, Nantong Industries, TSRC-UBE clarified in 2023 and restated of information for 2021 and 2022 data due to that some waste was not included in the calculation. 2021 and 2022 data of TSRC Specialty Materials LLC, a subsidiary of the U.S., are estimated according to production volumes, and the 2021 and 2022 waste data have been restated due to the release of the 2021 and 2022 ERIC reports.
- Non- hazardous general industrial waste includes: (1) incinerating, landfilling, and heat treatment and other disposed of General Industrial waste that cannot be recycled, including non-recyclable waste plastic mixtures, inorganic sludge, waste rubber and waste packaging materials, etc., (2) Recyclable General Industrial waste, including scrap iron, waste paper, rubber scrap, waste aluminum foil and waste metal boxes, (3) Reusable General Industrial waste, including waste rubber, waste wood, waste lubricating oil, etc.
- 5. Hazardous industrial waste includes: (1) non-recyclable waste oil, waste liquid, organic waste residue, sludge, waste chemicals, containers containing hazardous substances, etc.; (2) recyclable waste oil, waste packaging materials, waste containers, etc., which are identified according to the regulations announced by the competent authorities:
 - [Taiwan] Kaohsiung Factory and Gangshan Factory: According to the definition of "Hazardous Industrial waste Recognition Standard" published by Taiwan Environmental Protection Agency.
 - [China] Shen Hua Chemical, Nantong Industries, TSRC-UBE, and Shanghai Industries: According to the definition of the hazardous waste list published by the government of China.
 - [Vietnam] TSRC (Vietnam) Co., Ltd.: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.
- 6. Restatements of information:
- Non-hazardous General Industrial waste (including general waste and recycling) for 2022 was adjusted to the calculation scope due to Shen Hua Chemical (included rubber scrap), TSRC-UBE adjusted the calculation scope (included in waste electronic equipment), and TSRC Specialty Materials LLC revised the calculation basis (the original estimated waste generation using production to the actual monthly waste removal volume) from 3,260 metric tons to 3,568.65 metric tons, the degree of change accounted for 9.47 x 10² of the original production.
- Hazardous industrial waste generation for 2022, due to Shen Hua Chemical adjusted the calculation scope (including R-BD and R-SM), Nantong Industries adjusted the calculation scope (including waste empty barrels, etc.), TSRC-UBE adjusted the calculation scope (including waste empty barrels, etc.), and TSRC Specialty Materials LLC changed the information calculation basis from 2,144.63 metric tons to 2,360.24 metric tons for the above reasons, the degree of change accounts for 1.01 x 10⁻¹ of the original production.
- The total weight of all waste in 2022 was restated from 5,404.63 metric tons to 5,928.89 metric tons due to the above amendments, the degree of change accounted for 9.70 x 10⁻² of the original production.
- The amount of waste generated per unit product in 2022 has been restated from 10.01 to 10.98 (ton/thousand metric tons of production volume) for the reasons mentioned above, the degree of change accounts for 9.69x 10² of the waste generated per unit product.
- Non-hazardous General Industrial waste (including general waste and recycling) for 2021 was adjusted to the calculation scope due to Gangshan Factory (included waste paper and scrap iron, etc.), Shen Hua Chemical adjusted the calculation scope, Nantong Industries adjusted the calculation scope (include rubber scrap, scrap metal, etc.), TSRC-UBE adjust the calculation scope (include rubber scrap, scrap metal, etc.), and TSRC Specialty Materials LLC revised the calculation basis from 2,592 metric tons to 3,948.41 metric tons, the degree of change accounted for 5.23 x 10⁻¹ of the original amount.
- Hazardous industrial waste generation for 2021, due to Shen Hua Chemical revised the calculation basis (the calculation of empty barrels was changed from quantity to weight) and adjusted the calculation scope (to include R-BD and R-SM), Nantong Industries adjusted the calculation scope (to include waste empty barrels, etc.), TSRC-UBE (including waste empty barrels, etc.), and TSRC Specialty Materials LLC revised the calculation basis and other factors, from 1,873.05 metric tons were changed to 2,516.11 metric tons, accounting for 3.43 x 10⁻¹ of the original amount.
- The total weight of all waste in 2021 was restated from 4,465.05 metric tons to 6,464.52 metric tons due to the above amendments, the degree of change accounts for 4.48 x 10⁻¹ of the original production.
- The amount of waste generated per unit product in 2021 has been restated from 7.94 to 11.50 (metric tons/per thousand metric tons of production volume) due to the above amendments, the degree of change accounts for 4.48 x 10⁻¹ of the waste generated per unit product.

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Weight of General Industrial Waste



562,138 540.026 531,001 521,529 4.77 4.58 1.53 2020 2021 2022 2023

Weight and Percentage of Hazardous Waste Recycled and Disposed



Percentage of hazardous industrial waste recycled (Unit: Metric tons)

Note:

- 1. This table only includes factories and subsidiaries with manufacturing activities within the reporting boundary. The two trading-based subsidiaries, Polybus and TSRC (Lux.), the Global Business Headquarter, and the TSRC Specialty Materials LLC office, which are mainly office operations, generate only general domestic waste, not industrial waste.
- 2. The data is from waste transfer record and rounded to the second decimal place.
- 3. Restatements of Information:
 - In 2022, the weight of general industrial recycling waste was changed from 2,505 metric tons to 2,473.09 metric tons due to Shen Hua Chemical's adjustment of the calculation scope, Nantong Industries' adjustment of the calculation scope, TSRC-UBE's adjustment of the calculation scope, and TSRC Specialty Materials LLC's revision of the basis of calculation, and the extent of the change accounted for 1.27x10⁻² of the original amount of recycling.
- In 2021, the weight of general industrial recycling waste was changed from 1.187 metric tons to 2.680.76 metric tons due to Gangshan Factory's adjustment of the calculation scope, Shen Hua Chemica's adjustment of the calculation scope, Nantong Industries' adjustment of the calculation scope, TSRC-UBE's adjustment of the calculation scope, and TSRC Specialty Materials LLC's revision of the basis of calculation, and the extent of the change accounted for 1.26 \times $10^{\rm o}$ of the original amount of recycling.

Note:

- 1. This table only includes factories and subsidiaries with manufacturing activities within the reporting boundary. The two trading-based subsidiaries, Polybus and TSRC (Lux.), the Global Business Headquarter, and the TSRC Specialty Materials LLC office, which are mainly office operations, generate only general domestic waste, not industrial waste.
- 2. The data source for all factory in 2023 is the waste removal and disposal (transfer) records provided by waste treatment manufacturers, rounded to the second decimal place, TSRC Kaohsiung Factory, Gangshan Factory, Nantong Industries, TSRC-UBE, Shen Hua Chemical report to the government waste platform every month, while Shanghai Industries and TSRC (Vietnam) Co., Ltd.'s report to the government on an annual basis. TSRC Specialty Materials LLC reports to the government every two years.
- 3. Hazardous industrial waste includes: (1) non-recyclable waste oil, waste liquid, organic waste residue, sludge, waste chemicals, containers containing hazardous substances, etc.; (2) recyclable waste oil, waste packaging materials, waste containers, etc., which are identified according to the regulations announced by the competent authorities:
 - [Taiwan] Kaohsiung Factory and Gangshan Factory: According to the definition of "Hazardous Industrial waste Recognition Standard" published by Taiwan Environmental Protection Agency.
 - [China] Shen Hua Chemical, Nantong Industries, TSRC-UBE, and Shanghai Industries: According to the definition of the hazardous waste list published by the government of China
 - [Vietnam] TSRC (Vietnam) Co., Ltd.'s:08/2022/ND-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.
- Restatements of Information:
 - The 2022 hazardous industrial waste recycled total weight, recycled volume, and percentage of hazardous industrial waste recycled were restated for the reasons stated above. The recycled amount was changed from 668.60 metric tons to 714.03 metric tons, a change of 6.79x 10⁻² of the original amount of recycling. The recycling percentage was changed from 32.11% to 30.25%.
- The 2021 hazardous industrial waste recycled total weight, recycled volume, and percentage of hazardous industrial waste recycled were restated for the reasons stated above. The amount of waste handled by recycling was changed from 376.80 tons to 533.18 tons, a change of 4.15x10⁻¹ of the original amount of waste recycled. The recycling percentage was changed from 20.12% to 21.19%.

Appendix

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Waste Reduction and Reuse

TSRC actively reduces waste at the source by developing renewable materials to reduce the use of fossil fuels and waste. In addition, TSRC optimizes process control to stabilize reaction temperature and increase conversion rates, while increasing sampling analysis to make process conditions more precise and reduce waste and by-product production. In 2023, TSRC Kaohsiung Factory used metal filters instead of air filters for the dry bed coolers, and strengthened waste rubber classification to prevent scrap rubber from becoming waste rubber, reducing waste rubber by 1 metric ton per month. In addition, TSRC reduced the process changeover by stabilizing the scheduling process, reducing waste rubber by about 3 metric tons per month. Shen Hua Chemical, a subsidiary of TSRC, has effectively reduced sludge production by 14 tons by regulating the additives used in wastewater treatment.

TSRC's global factory sites and subsidiaries promote the reuse of by-products and resources within the plant to reduce waste production. In 2023, TSRC's subsidiary, Shanghai Industries, implemented the reuse of scrap iron, reducing scrap iron production by 2.5 tons. If waste cannot be reused within the plant, TSRC actively collaborates with waste treatment companies to recycle waste resources. TSRC Kaohsiung Factory sorts and screens waste rubber and sends it to legally authorized recyclers for resource recycling and production into reclaimed rubber raw materials. In 2023, the recycling rate of waste rubber was increased to 22% from 16% in 2022. Gangshan Factory turned waste rubber into recycled rubber raw materials, and reused 111 metric tons of waste rubber.

Waste Reduction at Source

By optimizing the process control, the reaction temperature will be stabilized and the conversion rate will be improved. By increasing the sampling analysis, the process conditions will be more accurate and the waste and by-products will be reduced.

Results

TSRC Kaohsiung Factory

- Replaced air filters with metal filters in dry bed coolers and strengthened waste rubber classification to avoid scrap rubber from becoming waste rubber, reducing waste rubber by 1 ton/month and 13.217 tons in 2023.
- Stabilized the production schedule to reduce the number of process changeovers, the number of process changeovers in 2023 was only half of that in 2022, which can reduce waste rubber by about 3 tons/month. A total of 35 tons was reduced in 2023.

Shen Hua Chemical

- Reduced the amount of ferrous sulfate and hydrogen peroxide added in wastewater treatment, reducing 14 tons of sludge production.
- Reduced the addition of defoamer in the process, reducing 5 tons of waste rubber generation.
- Wastewater treatment filters were rinsed and reused, and the replacement frequency was reduced to once every 4 months, reducing 1.8 tons of hazardous waste generation.

Nantong Industries

• Changed to regenerative thermal oxidizer (RTO) instead of activated carbon adsorption device to filter VOC, reducing waste activated carbon generation by 3.5 tons.

TSRC-UBE

• Implemented oxygen detector in the manufacturing process to control and reduce the temperature of butadiene in the system, avoiding the generation of 0.3 tons of waste rubber.

Shanghai Industries

- Optimized packaging of raw materials to reduce 5 tons of organic waste.
- Implemented the reuse of scrap iron, reducing 2.5 tons of scrap iron generation.

Waste Recycling (Off Site)

TSRC actively cooperates with waste disposal companies to convert the waste into resources.

Results

TSRC Kaohsiung Factory

• Developed a waste rubber reuse partner to increase the reuse rate from 16% to 22% in 2022, reused 2.3 metric tons of waste rubber/month, and reused a total of 32.65 metric tons throughout the year in 2023.

TSRC Gangshan Factory

 Turned waste rubber into recycled rubber raw materials, and reused 111 tons of waste rubber.

Nantong Industries

• Sorted recyclable waste oil and non-recyclable waste oil, and reused 6 tons of recyclable waste oil.

TSRC-UBE

• Sorted recyclable waste oil and non-recyclable waste oil, and reused 6 tons of recyclable waste oil.

2.4 Optimize Water Resource Usage

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 incorporated water-related risks into our overall risk management system, with particular attention to the risk resulting from and resulting in climate change. We conduct annual assessments of water-related risk at each site and review our response measures accordingly. TSRC has set up 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 of locations. We also try to reduce the amount of process wastewater that enters wastewater treatment plants of industrial parks as much as possible. TSRC has set a wastewater recycling target of 36% of the Group's total wastewater recycled by 2025, and a recycling rate of 40% by 2030. In 2023, the recycling rate was 25%, achieving the established goal.

In addition to condensed water and process wastewater recycling, TSRC has planned to build reclaimed water facilities or increase the purchase of reclaimed water at a number of production locations to enhance water resource stability. We expect Group-wide recycled water use to reach 34% of its total water consumption in 2025 and 40% in 2030. In 2023, the reclaimed water utilization rate was 22%, exceeding the target of 15%. TSRC publicly discloses its water resources management data and strategies every year and conducts a stakeholder survey to understand the views and feedback on TSRC's actions.

2.4.1 Water Resources Management

Water Resource Risks

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. TSRC Kaohsiung Factory complied with local water restriction measures in 2023. During periods of poor water conditions, TSRC made use of pipelines originally intended for other purposes, and optimized operations so that the Kaohsiung Factory can continue to provide a stable water supply. In 2023, TSRC did not receive any reports from suppliers or customers of supply or operation interruptions due to drought or water restrictions.

According to the Aqueduct Water Risk Atlas^{Note 1} of the World Resources Institute (WRI), on a county or city basis, regardless of the dry and abundant water period, TSRC's Kaohsiung Factory is in a high risk area for drought in the past and in the future (2015-2039)^{Note 2}, while the water resource risk of China's Shen Hua Chemical, Nantong Industries, and TSRC-UBE located in Nantong in Jiangsu Province, the U.S. TSRC Specialty Materials LLC factory located in Louisiana State, and Polybus, a trading-oriented subsidiary in Singapore, are at low risk (<10%). TSRC (Vietnam) Co., Ltd.'s in Vietnam is at low to medium risk (10%-20%) of water stress. TSRC (Lux.) in Luxembourg, the holding company for the trading business, and TSRC Specialty Materials LLC in Texas, USA, where the office is located, are subject to medium to high water stress (20%-40%). Shanghai Industries, located in the Shanghai area of China, has an extremely high risk of water stress (>80%).

Note: 1. Source: WRI Aqueduct Water Risk Atlas



Low Risk Low to medium risk Hedium to high risk High risk Extremely high risk

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Drought is identified as TSRC <u>climate-related risk</u>. 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 the relevant 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.

In response to Taiwan's policy of imposing water consumption fees on large water users, TSRC obtained third-party certification of its water recycling rate in December 2023. The water recycling rate of the Kaohsiung Factory (excluding the amount of water recycled in the cooling water towers) was 68.26%, while the applicable recycling rates ranged from 24 to 40% depending on the company, which was significantly higher than those of similar companies.

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 is actively engaged in water resource sharing initiatives with neighboring Dashe industrial park. TSRC also cooperates 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 the TSRC's water resources to combat droughts and tide over water restrictions together.

Water Resources Management

The ESG Task Force reports quarterly to the management team on the implementation of water resource management and the achievement of water management goals to ELT every quarter, and discusses from time to time the improvement of water resources management, the increase of wastewater recycling, and other programs and implementation status. In 2023, the TSRC Board of Directors met in July and November for climate change-related issues and also reviewed water-related targets. TSRC will continue to improve the utilization of water resources to ensure stable operations during future droughts or water restrictions.

TSRC's total water withdrawal in 2023 was 3,169.96 thousand cubic meters, a decrease of 17.89% compared to 2022. Among them, the Kaohsiung Factory and Gangshan Factory, which are located in the high-risk drought area, withdrew 1,567.09 thousand cubic meters of water, a slight increase of 0.51% compared to last year. TSRC Group's total water consumption in 2023 was 2,334.26 cubic meters, a decrease of 8.05% compared to 2022. TSRC's total water usage in 2023 was 5,127.72 thousand cubic meters, a decrease of 7.61% compared to 2022. The water usage per unit product was 9.66 metric tons per metric ton of production, a decrease of 6.04% compared to 2022, and continued to decline for the fourth consecutive year. The improvement in TSRC's water consumption data in 2023 was mainly due to the optimization of wastewater recycling measures promoted by Nantong Industries and TSRC-UBE to increase the wastewater recycling rate so as to reduce the reliance on fresh water. For the water withdrawal and consumption data of each subsidiary, please refer to Sustainability Data in the Appendix.

In 2023, the Kaohsiung Factory, Nantong Industries, and TSRC-UBE all optimized their facilities to reduce their reliance on fresh water. The Kaohsiung Factory optimized its utility systems and sanitary water use, while Nantong Industries and TSRC-UBE reduced their reliance on fresh water by increasing their wastewater recycling rates, reducing their total fresh water consumption by approximately 137,000 metric tons.

TSRC is aware of the trade-off between water management and GHG emissions. In 2023, the Kaohsiung Factory decreased the purchase of steam produced by coalfired fuels and replace it with self-produced steam with low-carbon fuels, thereby increasing the energy use and direct GHG emissions of Kaohsiung Factory (Scope 1), while the overall GHG emissions (Scope 1 and Scope 2) of Kaohsiung Factory still decreased by 3.2% in 2023. As the self-generated steam is made of low-carbon fuels, TSRC would still choose to reduce external purchase.

Tap Water Withdrawal and Use Volume



Note:

- 1. Tap water withdrawal is freshwater supplied by the local water company (≤1,000 mg/L TDS). TSRC Kaohsiung Factory also draws groundwater.
- 2. Water usage = Tap water withdrawal + Groundwater withdrawal + Purchased steam + Wastewater recycled + Purchased reclaimed water.
- 3. Water consumption = Water usage Water discharge.
- 4. Purchased steam is also used as one of the process water sources after the heat exchange purpose is achieved in the relevant process, and the evaporation amount is not considered in the data.
- 5. Data are rounded to the second decimal place starting in 2022.

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(Unit: 1,000 m³ = million liters)



1. Water usage = Tap water withdrawal + Groundwater withdrawal + Purchased steam + Wastewater recycled + Purchased reclaimed water -Water discharge. Data are rounded to the second decimal place starting in 2022.

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

(Unit: metric tons of water consumption/metric tons of production)



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 takes recycling within the plant as the main consideration to reduce wastewater discharge. 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 the industrial park's wastewater treatment system. TSRC's wastewater discharge has not caused any direct ecological impacts to the surrounding areas. In 2023, TSRC did not violate any wastewater regulations or exceed priority-controlled substance emission limits. For information on the discharge volumes of each subsidiary, please refer to the <u>Sustainability Data in the appendix</u>.

The wastewater discharge standards of Gangshan Factory aim to meet the sewage system limits of 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 standard of the local competent authority, including the PH value, chemical oxygen demand (COD), suspended solid (SS), and biochemical oxygen demand (BOD). Main 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.

In 2023, Nantong Industries invested in two new wastewater treatment systems. One for industrial wastewater treatment and the other for domestic wastewater. The industrial wastewater treatment system collects wastewater from the plastic trap and uses the treated water in the cooling loop water tower to maximize the use of water resources, with an estimated reduction of 140,000 tons of wastewater discharge per year. The domestic wastewater treatment system can reduce the ammonia nitrogen, total phosphorus, and chemical oxygen demand (CODcr) at the end of the pipe to reduce the impact on the environment.



Water Discharge



(Unit: 1,000 m³ = million liters)



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

2. The data is rounded to the second decimal place starting in 2022.

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2.4.2 Water reuse and recycling

After holistically considering the usage efficiency and discharge of water, TSRC has strengthened water recycling measures and increased the circulation of water resources in factories in recent years to lower the impact of water resources on operations and move forward to zero wastewater discharge. In 2023, the overall wastewater recycling rate was 25%, and the reclaimed water usage rate of 22%^{Note}, both have reached their annual targets. Given that the two factories in Taiwan are located in the high-risk water stress areas, TSRC devotes efforts to wastewater recycling, resulting in a wastewater recycling rate of 33% in Taiwan in 2023.

To reduce the water resource risk associated with climate change and increase operational stability, TSRC is increasing capital expenditures to strengthen the Group's wastewater recycling rate. In 2023, wastewater recycling equipment was installed in Nantong Industries and TSRC-UBE to increase the wastewater recycling rate to 38% and 39%, respectively. In 2023, the Kaohsiung Factory increased its daily recycling capacity by 51 metric tons through the optimization of the wastewater recycling system. In response to the water restrictions in Kaohsiung, measures are taken in advance, such as installing additional water pipelines and inquiring about the availability of recycled water. For the wastewater recycling rate and the reclaimed water usage rate of each subsidiary, please refer to the <u>Appendix</u>.

Note: Wastewater Recycling Rate= Wastewater recycled volume/total wastewater volume; reclaimed water usage rate = Reclaimed water usage volume / total water usage volume

Wastewater recycling

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

- TSRC Kaohsiung Factory optimizes operation of wastewater recycling system and increases daily recycling volume by 51 metric tons.
- Both Nantong Industries and TSRC-UBE optimized their wastewater recycling facilities to increase their wastewater recovery rates from 19% to 38% and 35% to 39%, respectively.

Wastewater Recycling and Recycling Rate



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 continues to introduce fiber filtration equipment into the process to increase the amount of reclaimed water.

Reclaimed Water and Usage Rate



Reclaimed water usage volume (Unit: 1,000 m³ = million liters)

Reclaimed water usage rate (Unit: %)



- Reclaimed water usage rate = Reclaimed water usage volume / total water usage volume.
- 2. The data is rounded to the nearest whole number.



2.5 Improve Enviornmental Management

TSRC takes its social responsibility for environmental protection seriously, and has adopted high standards of environmental management at all of its operating locations, including: air pollution, waste/scraps, soil and groundwater contamination, and other substances that may have an impact on the environment. TSRC continues to promote energy conservation and waste reduction, air pollution prevention, and wastewater reduction and recycling through ISO 14001 Environmental Management Systems. We periodically conduct comprehensive reviews, and use technology to monitor factories and surrounding areas, so as to comply with regulations. TSRC's environmental management strategy focuses on "process improvement" and "environment management and supervision and for formulating related plans while factories are responsible for implementation.

In 2023, TSRC spent NT\$239,102,616 on environment-related projects such as energy-saving and carbon reduction, air pollution prevention, waste management, and water resources management, representing an increase of 71.39% from 2022. The largest increase (533%) was for water resource management projects, followed by waste reduction related expenditures (161%).

Process Improvement

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

Environment Monitoring

TSRC established a digital monitoring system to monitor emissions at factories and surrounding areas, and set up a realtime 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.

TSRC Group Capital Expenditures on Environment-related Projects

Unit: NT\$	2021	2022	2023								
Energy conservation and GHG reduction	61,124,785	65,585,801	82,634,999								
Reduction of air pollution	38,273,072	57,672,813	87,427,700								
Waste reduction	3,315,279	9,096,124	23,762,820								
Enhancement of water management	4,722,282	7,154,179	45,277,097								
Total	107,435,418	139,508,917	239,102,616								
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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 promoted the following measures at each plant in 2023:

TSRC Factories	Measures for 2023						
Kaohsiung Factory	{ }	Equipment Upgrade	 Replacement of cock valves with low leakage type. Use of new gaskets for piping flanges. Replacement of closed sampling system. Tanker unloading adopted dry connectors. Introduced an exhaust gas recycling system which diverts part of the exhaust gas to the boiler to recover heat energy and reduce emissions. 				
Gangshan	{ }	Equipment Upgrade	 Replacement of exhaust gas extraction equipment in the R&D lab. Replaced the size of the extruder exhaust hood at the manufacturing site to effectively collect the VOCs generated from the cleaning of the pelletizer and extrusion dies. 				
Factory	Ø	Regular Inspection	 Annual maintenance, filter replacement and inspection of scrubbers to ensure the removal efficiency of scrubbers. Total suspended particulates (TSP) generated during the operation of dosing and suction areas at the manufacturing site are collected through closed or air hoods and processed in bagged dust collectors, which are regularly cleaned weekly to ensure proper functioning of the dust collectors and are superior to the law that the collectors are to be replaced every three years. 				
	{ }	Equipment Upgrade	• Replacement of old gaskets and other measures to reduce non-point source emissions.				
Shen Hua	•	Purchase of New Equipment	 Added new activated carbon adsorption device to treat the unorganized waste gas escaping from the dry bed. Installation of mobile suction device to collect the waste gas generated from the inspection and maintenance process to the regenerative thermal oxidizer (RTO) for treatment, so as to reduce the emission of non-point source. 				
Chemical	\$	Process Improvement	• Collect laboratory oven emissions and non-point source emissions from doping tanks to a RTO for treatment to reduce non-point source emissions.				
	Ø	Regular Inspection	• Regularly carry out Leak Detection and Repair (LDAR) inspections and take timely closure of leakage points.				

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TSRC Facto	TSRC Factories Measures for 2023													
Nantong		₽	Process Improvement	Using close	ed samplers, dr	y connectors, and	I hoods to conne	ct the test emiss	ions to a RTO for	treatment.				
Industries	es	Ø	Regular Inspection	Regularly c	Regularly carry out Leak Detection and Repair (LDAR) inspections to eliminate VOCs from escaping.									
		{ }	Purchase of New Equipment	• Built a new	r 70,000 m3/h re	egenerative therm	nal oxidizer to inc	rease the collec	tion capacity of pr	ocess waste ga	S.			
TSRC-UB	BE	\$	Process Improvement	Improvement containme	ent of VOCs coll nt.	ection process th	nrough M-2, AO, a	nd DEAC feedst	ock allocation tan	ks, and continue	ous optimization c	of equipment		
		Ø	Regular Inspection	Regularly c	carry out Leak D	etection and Rep	air (LDAR) inspec	tions to eliminat	te VOCs from esca	aping.				
TSRC (Vietn Co., Ltd	nam)	Ø	Regular Inspection	 Introduced scrubbers' 	 Introduced scrubbers in 2019 to reduce VOCs fugitive emissions. TSRC also regularly monitors VOCs values every quarter to monitor the scrubbers' removal efficiency. 									
Shangha Industrie	ai es	{ }	Purchase of New Equipment	• Installation of air collection hoods above the vibrating screens in the extrusion line to eliminate the escape of VOCs.										
TSRC Speci Materials I	ialty LLC	\$	Process Improvement	• Planning to introduce a co-generation system to reduce emissions by channeling waste gas into the co-generation system to generate electricity and steam.						enerate				
			R				HXXXX							

Report the CEO Recognitions Information About TSRC Environmental Social 2022-2023安全生产年度 安全生产突出贡献 Shen Hua Chemical, Nantong Industries, and TSRC-UBE have all been awarded the "Odor Free" Enterprise government award, with Shen 豪 省危化品专家,市安委会、区安委会安全专家 学生 省危化品等 , 市安委会 区安委会安全专家 Hua Chemical being recognized as an "A" rated enterprise in the 2023 区安全全专 长化品考 市安考 provincial air pollution performance rating. TSRC continues to upgrade equipment and optimize processes, reduces air pollutants released in the production process, such as VOCs, which have been declining

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over the past three years, and reduces hazards to the environment and health. For information on the air pollutant emissions of each subsidiary, please refer to the <u>Appendix</u>.

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Appendix

Air Pollutant Emissions

About the

Unit: Metric tons | 🌢 Nitrogen oxides (NOx) 🌢 Sulfur oxides (SOx) 🛑 Volatile organic compounds (VOCs) 🛑 Hazardous Air Pollutants (HAPs) 🛑 Particulate Matter (PM)

Chapter 1



Note:

Contents

- 1. This chart only includes manufacturing sites and subsidiaries with manufacturing activities within the reporting boundary. Two holding subsidiaries, Polybus and TSRC (Lux.), which mainly engage in trading activities, and the Global Business Headquarters which mainly handles office affairs, are therefore excluded from the table as they have no manufacturing activities.
- 2. Data of TSRC Kaohsiung Factory, Gangshan Factory, Shen Hua Chemical, Nantong Industries, and TSRC-UBE is from continuous measurement. Data of TSRC (Vietnam) Co., Ltd. and TSRC Specialty Materials LLC is based on the US EPA standard. Data of American subsidiary TSRC Specialty Materials LLC in 2023 is estimated based on production ratio between 2023 and 2022. It is expected that the data will be updated after TSRC Specialty Materials LLC submits the ERIC report to the US government in Q2 2024.
- 3. TSRC Air pollution detection is monitored by CEMS in accordance with laws and regulations, and is not tested for individual species, and Nitrogen oxides (NOx) cannot deduct N₂O.
- 4. In 2023, the sulfur oxides were removed from the list, so there is no detection data for the Kaohsiung Factory and Gangshan Factory.
- 5. Only US Factory is required to perform HAPs testing due to regulatory requirements. Other factories have not been tested because there are no requirements in the regulations.

6. Restatements of information:

- Nitrogen oxides (NOx) emissions in 2022 were revised from 15.66 metric tons to 7.42 metric tons, based on the publication of the Emissions Reporting and Inventory Center (ERIC) report by TSRC Specialty Materials LLC in Louisiana. This revision is due to the change in calculation method from estimating emissions based on production volume to using actual emission data.
- Volatile organic compounds (VOC) emissions in 2022 were revised from 192.12 metric tons to 336.38 metric tons due to the updates and revisions of the calculation scope by Nantong Industries, TSRC-UBE, and Shen Hua Chemical, as well as the adjustment of the calculation method, and TSRC Specialty Materials LLC adjusted the calculation baseline due to the publication of the ERIC report for that year. The degree of change accounts for 7.51 x 10⁻¹ of the original emissions.
 Nitrogen oxides (NOx) emissions in 2021 were revised from 15.66 metric tons to 15.35 metric tons for the same reasons as above, the degree of change accounts for 1.98 x 10⁻² of the original emissions.
- Volatile organic compounds (VOC) emissions in 2021 changed from 192.12 metric tons to 462.93 metric tons, due to the inclusion of the calculation for the Gangshan Factory, the update of the scope for Nantong Industries and TSRC-UBE (including the inclusion of flare emissions) and the correction of the calculation method (from original adjustment for missing continuous monitoring equipment performance to manual monitoring), the update of the scope for Shen Hua Chemical (from fugitive emissions to stationary emissions) and the correction of the calculation method (from original adjustment of detection report values to online monitoring values), and the adjustment of calculation basis for TSRC Specialty Materials LLC due to the aforementioned reasons. The degree of change accounts for 1.41 x 10⁰ of the original emissions.

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In 2023, two incidents of violation of the Air Pollution Prevention Act occurred at TSRC's Kaohsiung Factory, and TSRC immediately initiated remedial measures. These include the establishment of a plant equipment component tracking record, replacement of sealing strips, and education and training of operators, to immediately minimize the impacts on the environment and residents in nearby communities.

TSRC Air Pollution Violations and Improvement Plan

Factory Found in Violation	Regulation Violated Reason for Fine		Penalty Amount (NT\$)	Solution or Improvement Plan
TSDC	Article 23 of the Air Pollution Control Act, Taiwan	The synthetic rubber manufacturing process (M03) at the Kaohsiung Factory did not effectively collect air pollutants, which was not in compliance with Article 13 of the Air Pollution Control and Emission Standards for Volatile Organic Compounds, which stipulates that emission pipes should have a closed air collection system. This is in violation of Article 23 of the Air Pollution Control Act.	450,000	 TSRC has paid the full amount of the fine. Establishment of BR plant equipment component tracking logs and inspections. MS-6401 had poorly designed exhaust duct, replaced the cover sealing strip and improved the exhaust duct. Conducted On the Job Training (OJT) program for personnel.
Kaohsiung Factory	Subparagraph 4, Paragraph 1, Article 32 of the Air Pollution Control Act, Taiwan	Leakage of flanges from the transportation pipeline in the unloading area of the Kaohsiung Factory's thermoplastic rubber manufacturing process (M04), resulting in the leakage of isoprene residue in the transportation pipeline (there was no transportation operation at that time, so the leakage was the residue in the pipeline), resulting in air pollution, which was in violation of Subparagraph 4, Paragraph 1, Article 32 of the Air Pollution Control Act, Taiwan.	195,000	 Revised the manual to avoid liquid sealing of the unloading pipe or residual isoprene in the pipe. Conducted personnel training to require that the isoprene unloading pipe be connected to the recirculation pipe, and that the hand valve switch be controlled by the unloading personnel, so as to prevent personnel from mis-operation. Installation of pressure relief facilities in isoprene unloading line to avoid liquid damage to the line due to operator error. Purchased a set of multi-functional leakage stopping tools (e.g., flange clamps for lines under 6 inches).

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 "Red List" of IUCN or "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 its plants, 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 expose the diversity of nature 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 the planting area

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

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Implementation Status of Natural Environment Protection at Each Plant Site

TSRC Factories	2023 Accomplishments
Kaohsiung Factory	 In addition to the daily maintenance of vegetation in the plant, we continue to take care of the vegetation on site through an external professional team. Tree species in the onsite 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. Emphasizing 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 the national policy and will continue to evaluate the possible ways of relocating the 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. Online monitoring of rainwater and industrial wastewater in the factory area to ensure that the discharge standards are met and to minimize the impact on plants onsite.
Nantong Industries	• 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.
TSRC-UBE	 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.
TSRC (Vietnam) Co., Ltd	• In addition to the factory's own general maintenance of the 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.
Shanghai Industries	 In addition to carrying out its own daily maintenance, the factory actively participates in ecological restoration by repairing and caring for plants that have been damaged, in order to restore the balance and stability of the ecosystem. Implementing green production methods, adopting environmentally friendly production technologies and equipment, improving production efficiency and resource utilization, and reducing negative impacts on the environment. To fulfill social responsibility, the company is concerned about environmental protection issues, and encourages employees to actively participate in public welfare and environmental protection activities to promote the harmonious development of enterprises and society. Evaluate the engineering operations in the factory area, and if the survival of plants is affected, transplant the plants to suitable locations according to the characteristics of plants and transplantation requirements. Reduce noise and avoid disturbing the habitat of birds in the factory area.

Regarding the prevention of land and groundwater pollution, the three subsidiaries of Shen Hua Chemical, TSRC-UBE, and Nantong Industries conduct regular soil and groundwater monitoring inventories in accordance with the "HJ 1209-2021 Technical Guidelines of Soil and Groundwater Self-Monitoring for Industrial Enterprises" of China every year. The results of the inspections in 2023 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, and in 2023, the test results showed 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 plant area, and monitoring and testing are conducted on a regular basis. The TSRC Specialty Materials LLC plant is located in the Dow Industrial Park and the groundwater is monitored by Dow.



Chapter 3 Social

In response to global ESG initiatives and demands for sustainable development, TSRC has strengthened employee sustainability and developed talent cultivation plans. We aim to deepen multi-competency development and knowledge learning. We will expand our reach and enhance our competitiveness through cooperation with industry, government, and academic institutions.

Employee safety, health, and welfare are the key factors to TSRC's long-term development. TSRC will optimize the work environment of all sites and care for employees' physical and mental health to uplift employees' engagement. TSRC will expand our positive influence on society by integrating the Company resources and employees' voluntary actions together into chemical sustainable education and social welfare to benefit community prosperity.

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3.3	Enhance Social Engagement	10

Employee total recordable incident rate (TRIR) was **0.34**

Employee TRIR in 2023 Exceeded the set target (≤ 0.36) **2,606** employees participated in seminars on physical and mental health activities

Number of recipients reached 2,016 in 2023 A total of 2,606 participants since 2022 **578** participants in chemical education programs

Number of recipients reached 468 in 2023 A total of 578 participants since 2022





Material topics

Talent development, Occupational health and safety

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Corresponding Chapter 3.1.2 Talent Attraction and Empowerment

Policy

Talent Development Policy



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

Commitment

	2023 Achievement	2023 Goals	2025 Goals	2030 Goals		
Target and Achievement	 Achieved 35% of the targeted number of employees having received training, and a cumulative percentage of 47%. Implemented 4 training programs, including the TSRC Management Leadership Model, Core Values Training, Corporate Governance Program, and ESG Basic Information Training Program. 89% of executives who participated in the "TSRC Management Leadership Model" training program have demonstrated team leadership skills through practical application. A total of 788 employees received training on core values and new management leadership for managers, accounting for 47% of the Group's full-time permanent employees. The proportion of internal transfers of vacancies was significantly higher than the previous year, with the proportion of internal transfers or promotions for supervisory positions increasing by 36% over the previous year. 25% increase in the proportion of non-supervisory vacancies transferred or promoted internally over the previous year. The overall response rate of the annual organizational survey (e-NPS) reached 88.9%, an increase of 0.9% from the previous year. The e-NPS increased by 5.6 points from the previous year. 	 Cultivate talents with multi- competencies to reach 30% of the total number of employees by 2023. Establish an organizational ESG management mindset and complete ESG training for all employees globally. 	 Cultivate talents with multi- competencies to reach 60% of the total number of employees by 2025. Enhance the organization's ability to integrate ESG information systems. 	 Cultivate talents with multi- competencies to reach 80% of the total number of employees by 2030. Enhance the organization's ESG performance analysis capability. 		
Actions Ta	 Cultivated common management competencies in the leadership team with the TS Organized a large-scale cross-departmental forum, the "TSRC Sharing and Exchange" Organized online learning to continuously promote employee training and competencies 	SRC Management Leadersh ge" to convey the mentality a ncy enhancement.	ip Model. and capabilities required by	TSRC's core values.		
Processes to ti effectiven	 Processes to track the effectiveness The ESG Taskforce reports through quarterly meetings to the Executive Leadership Team on the progress and effectiveness of actions related to "Strengthen Employee's Sustainable Capability". Analyze post-course satisfaction of training courses. Regularly track the implementation of measures to improve employee input in each functional unit. 					
Engagemen stakehold	 Organized 12 management leadership model presentations and exchanged ideas v Adopted employee satisfaction surveys and feedback from training programs as in Organized the annual "TSRC Sharing and Exchange", inviting employees representir of working at TSRC. Regularly held annual CEO face-to-face seminars to communicate with employees priorities. 	with global executives. nportant sources of reference ng the core values of the old about the company's currer	ce for future planning adjus I/middle/young generations nt situation, strategic directi	tments. s to share their stories on, and development		

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Chapter 4

Policy

Environmental, Health and Safety Incident Reporting and Investigation Procedures Contractor Management Related Procedures TSRC Supplier Code of Conduct



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.

	2023 Achievement	2023 Goals	2025 Goals	2030 Goals				
✓ Target and Achievement	 TSRC's employee TRIR was 0.34. TSRC was honored as a benchmark unit for group management in China. Nantong Industries was honored as an excellent unit in the assessment of production safety target management responsibility system in China. 	TSRC's employee TRIR ≤ 0.36	TRIR <0.3	TRIR <0.3, with zero accident rate for at least one year				
Actions Tal	 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 the Effective	 Processes to Track the 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. Kaohsiung Factory and Gangshan Factory hold quarterly meetings on occupational safety and health management 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. 							
Engagement Stakehold	 Held 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 were 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. 							

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3.1 Strengthen Employee's Sustainable Capability

In the face of the global carbon reduction trend and transformation of the chemistry industry's ecosystem, TSRC implements a diverse and inclusive organizational culture, promotes an ESG competency talent cultivation program, and builds a learning organization to attract and retain professional talent and strengthen the company's competitive advantage and sustainable development.

Strengthen TSRC's Sustainability Capability Management



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3.1.1 Employee Structure

Employee Profile

As of the end of 2023, TSRC had 1,652 permanent employees. TSRC is committed to promoting a Diversity, Equity, Inclusion (DEI) friendly workplace. TSRC is piloting a DEI disability appointment program. As a result, TSRC employs one visually impaired masseur as a temporary employee at Kaohsiung Factory. Due to the nature of work in the chemical industry, male permanent employees make up 83.54% of the total number of employees. In addition, there were 360 employees who were not directly employed by TSRC, such as dispatched workers and contract workers. For the number of employees and other workers of each subsidiary in 2023, please refer to the <u>Appendix</u>.

Total Number of Employees (by Region) Total Number of Employees (by Gender) Total Number of Employees (by Age)



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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 personnel 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 2023, a total of 172 employees joined TSRC, accounting for 10.41% of the 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 between 30 and 50 years old, followed by those under age 30. TSRC had 140 employees resign in 2023, and the turnover rate is 8.46%. The age distribution of the departed employees is mainly between 30 and 50 years old, followed by those under 30.

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 declining annually from 2021 to 2023, demonstrating the effectiveness of the measures. TSRC is planning more diverse and complete 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 <u>Appendix</u>.

Number of New Hires and New Employment Ratio



Number of Departing Employees and Turnover Rate

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Note:

- 1. In 2023, there were 1,652 permanent employees and 1 temporary employee. One temporary employee, a visually impaired masseur, is a full-time employee of TSRC. Due to the nature of the work, the performance review and the training mechanism of the Group are not applicable to this employee. The turnover rate is calculated based on the percentage of departed employees to the number of permanent full-time employees.
- 2. The total number of permanent full-time employees is calculated as of 12/31/2023, and the new employment ratio is rounded to the second decimal place.
- 3. The calculation of this table for 2023 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, and is included in the calculation due to the employment of one full-time employee. It is to ensure the number is consistent to TSRC's other report. In 2023, TSRC (USA) Investment Corporation had no departed employees.
- 4. New employment ratio = Total number of new employees / Total number of permanent full-time employees; Turnover rate = Total number of departed employees / Total number of permanent full-time employees

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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 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), promotes external professional courses and technical exchanges, and promotes global ESG training in Taiwan, China, Europe and the U.S. The ESG general course includes important ESG information such as "global ESG development trends," "TSRC ESG strategy and goals," and "TSRC's sustainable products". All TSRC Group employees have completed the training in the first quarter of 2023.

TSRC has established the TSRC Learning Blueprint based on the three major aspects of personal ability, individual willingness, and organizational needs. Through educational newsletters, personal development goal-setting courses, and "TSRC Sharing and Exchange," the company promoted the goal-setting and implementation of personal development for global employees. Through the guidance and assistance of managers, TSRC assists staffs to connect their self-development goals with the Company's critical needs. TSRC has also introduced the Predictive Index (PI) Behavioral Assessment tool to help employees understand self-driving elements and develop their strengths. The tool supports managers to understand the strengths and characteristics of staff, resulting in better providing guidance and assistance.

TSRC Learning Blueprint



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In 2023, the industry in which TSRC operates faced significant economic challenges. In response to the rapid changes in the market and the environment, TSRC actively invested in employee education and training resources, and the total hours of employee training increased by 2.92% compared to last year. For the total training hours, ranks, and gender of each subsidiary, please refer to the Appendix.

Average Training hours per Employee and Total Investment Amount



Note:

- 1. In 2023, there were 1,652 permanent employees and 1 temporary employee. One temporary employee, a visually impaired masseur, is a full-time employee of TSRC. Due to the nature of the work, this employee is not included in the calculation of average training hours.
- 2. The total number of permanent full-time employees is calculated as of 12/31/2023.
- 3. 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.
- 4. The calculation of this table for 2023 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, and is included in the calculation due to the employment of one full-time employee who has undertaken training. It is to ensure the number is consistent to TSRC's other report.

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TSRC Leadership Competency Project

In 2023, TSRC established the Leadership Competency Project to cultivate management competencies in the leadership level, in order to prepare for current and future challenges and to move toward global managerial development. By defining the types of competencies, measurement standards, behaviors to be demonstrated, and analyzing obstacles to leadership development, TSRC has completed the development of competency projects, and identified the eight key competencies and supporting skills for each leadership level. TSRC puts efforts on succession planning and conducts analysis every March to check key talent reserves and the development plans for critical positions. The Company also launches different courses according to different job levels, including leadership courses for entry level managers, organizational leadership courses for mid-level managers, and strategic leadership courses for senior managers.











and front line of production managers worldwide have completed the "Effective Collaboration" competency activity.

• 89% of leaders utilized team leadership skills in practice after completing the course.





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TSRC Sharing and Exchange

To facilitate cross-departmental collaboration and innovation, TSRC has held the annual "TSRC Sharing and Exchange" activity series since 2021, inviting experts in various areas of the Company's departments to share their case experiences about finding solutions and breakthroughs when facing challenges and bottlenecks. The online real-time interaction and cross-border discussions allow knowledge and skills to flow between different business units and inspire innovative ideas and practices.

2023 TSRC Sharing and Exchange's theme was related to TSRC's five core values – Accountability, Integrity, Teamwork, Excellence, and Innovation. Old/middle/young managers and employees were invited to share their stories of working in TSRC. The corporate culture and values of TSRC are described from the perspective of different generations, while the growth and significance that history has brought to TSRC can be witnessed. The activities attracted 692 participants, with an overall average satisfaction rating of over 4.6 points (based on a 5-point satisfaction score). A total of 19 Sharing and Exchange events were held overseas. In the future, TSRC will gradually expand the TSRC Sharing and Exchange to other locations. The content will continue to be integrated with the career paths of employees to expand the endless possibilities.





Professional Training On-the-Job Training

The departments of TSRC's subsidiaries continue to plan professional courses in accordance with professional needs and business requirements. The courses cover upstream and downstream industry knowledge, practical skills, and ethical business practices to help employees improve their professional knowledge and develop their potential skills.





Industry Knowledge

By exploring the current state of the automotive industry and understanding the latest development trends on TSRC's client-end, TSRC is able to keep abreast of the industry.

Practical Skills

Explain SIS product specifications and applications, and discuss enterprise processes and automation practices.



Ethical Business Behavior

Explain practical cases of antitrust and prohibition of insider trading to build employees' awareness of ethical behavior.

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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 the goal setting is linked to the Company's overall strategy and employees' development. All employees are undergone the evaluation twice a year. The management conducts regular performance interviews with employees (including development goal interviews) to provide feedback and assist employees in optimizing their performance.

TSRC cares employees' 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 necessary resources or supporting assignment shifting. We reward senior and exemplary employees for their years of outstanding contributions and service.

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. In 2023, there were 1,652 permanent employees and 1 temporary employee. One temporary employee, a visually impaired masseur, is a full-time employee of TSRC. Due to the nature of the work, this employee is not included in the calculation of the Group's employee performance review.
- 2. Senior managers refer to G19 and above managers, mid/entry level managers refer to deputy managers and managers. Direct employees refer to staff directly responsible for production lines, including operators, technicians, shift leaders, and analysts. Indirect employees that are not direct employees.
- 3. The total number of permanent full-time employees is calculated as of 12/31/2023. Percentages are rounded to the second decimal place.
- 4. The calculation of this table for 2023 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, and is included in the calculation due to the employment of one full-time employee who has undergone performance evaluation. It is to ensure the number is consistent to TSRC's other report.

3.2 Improve Health, Safety & Wellbeing of Employees

Employees are the core for TSRC competitiveness. TSRC devotes efforts to provide a "safe working environment", "protect human rights and harmony between labor and the Management", and "enhance employee engagement". TSRC develops the TSRC Safety Culture to enhance employees' awareness and attention to workplace health and safety, reduce the occupational injury rate, and achieve zero accidents and zero injuries. We are committed to protecting employees' human rights and respecting fundamental freedoms, supporting the Universal Declaration of Human Rights (UDHR) and other relevant international human rights concepts, and implementing TSRC's human rights policy. We value employees' opinions and rights and establish a channel for feedback and communication. We organize activities to improve health and provide competitive remuneration and benefits to enhance employee engagement.

3.2.1 Occupational Health and Safety

Safety Core Values and Policies

To increase the awareness and attention to workplace health and safety at all levels, TSRC has promoted the TSRC Safety Culture and TSRC HSE Core Value since April 2021. It consists of five core elements: people-centric, zero incidents, commitment, discipline, and compliance. We further formulated the TSRC safety and health policies and convert into the safety culture: we pursue zero accidents and zero injuries with a people centric approach through technology, safety and health culture, responsibility, and communication.

Safety Core Values



People Centric

People we work with will be valued, respected, listened to, while creating a friendly workplace.



Zero Incidents

Commit to achieve and sustain zero incidents through continuous improvement.



Commitment

Determined to operate without compromising the health, safety, and environment.



Discipline

Be self-disciplined, build safe habits, and a safety-first mindset to demonstrate HSE practices.



Compliance

Full compliance with laws, company policies, and standards are minimum requirements.

Safety and Health Policy Principles



People Centric

Allow employees and representatives are able to participate, and continue to care for and protect employees.

Technology

Develop management strategies and production technology with the consideration of the employees' health and safety.



Safety & 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 the Corporate Social Responsibility but also everyone's responsibility to comply with the applicable safety and health regulations and other requirements to prevent occupational accidents, injuries, and disease.

Communication

Communicate with all employees about the need for occupational safety and health measures through education training and safety and health meetings.

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Occupational Safety and Health 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 Taiwan's Occupational Safety and Health Management Act, TSRC's global corporate headquarters has set up the Occupational Safety and Health Division (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 the Group's factories (whether or not ISO45001 is implemented), developing promoting activities (such as Safety Culture Initiatives), and supporting employees and contractor 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 the goal of "Disaster-free and 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.

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In accordance with the provisions of the ISO45001 management system and local laws and regulations, the Taiwan and China plants have established comprehensive occupational safety and health hazard identification and risk assessment procedures. The assessment results are managed in a hierarchical manner using matrix, which are categorized into acceptable risks (1-acceptable, 2-low, 3-medium) and unacceptable risks (4-high, 5-unacceptable). Acceptable risks are managed and operated in accordance with established procedures, and the effectiveness of existing protective measures is regularly reviewed. Management plans are formulated for unacceptable risks and reviewed at management meetings to achieve continuous improvement through the PDCA cycle. Although the US and Vietnamese subsidiaries have not yet adopted the ISO45001 management system, and their occupational safety and health management work is currently being effectively managed according to local occupational safety and health regulations, as well as the Group's policies, procedures, and requirements.

In 2022, TSRC officially launched its 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. In 2023, TSRC reported a total of 36 incidents (including incidents, potential penalties and penalties) and 117 false alarms (including unsafe conditions and behaviors). In response to these incidents, TSRC will continue to compile and analyze statistics and formulate relevant preventive measures to avoid recurrence.

Additionally, since 2022, TSRC established the Global HSE Annual Award. Sites which have excellent HSE performance are recognized and rewarded. The peer competition improves the HSE culture and implementing outcomes.

TSRC has the Responsible Care Committee, which is established for the safety and health of all employees and contractors, and 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 ISO45001 Occupational Safety and Health Management System. The Responsible Care Committee convenes quarterly meetings and is chaired by the vice president of the Operational Division. The Committee members include labor representatives, who participate in discussions on the planning and implementation of occupational safety and health policies.



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



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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 related information to employees. In all 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 make a ruling. The company will not punish employees for their statements.

Frequency of Safety Meetings and Attendees at Each TSRC Factory



Frequency		Attendees	
• Quarterly		Chairperson:Employee Re	Unit supervisor epresentative: Safety personnel
	TSRC (Vietnam)	Company Lin	nited
Frequency		Attendees	
• Quarterly		 Chairperson: Administration Employee Repersonnel for 	Head of Manufacturing and on epresentative: Responsible r HSE

Note: TSRC Specialty Materials LLC has no safety committee meetings at this time, but is expected to be implemented in 2024.

Contractor and Supplier Operational Safety Management

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With the people-centric approach, TSRC not only focuses on employee safety but also values operational safety for contractors. Therefore, TSRC has established the "Contractor Management Procedures" to regulate contractors' gualification inspection, training, hazard notification, construction safety precautions, penalties, and assessments for contractors. The engineering contractors must apply for a construction permit before starting work, and a toolbox meeting is held with the functional unit and contractors to ensure that all contractors understand the steps, hazards, and control measures. The engineering contracting unit conducts on-site inspections to ensure that contractors comply with occupational safety and health regulations and safety precautions.

Considering that the year-end repair period is the period when contractors face the highest construction risk, each factory organizes safety seminars before the year-end repair period. There were a total of six seminars in 2023, with the construction safety management implemented, resulting in an annual yearend repair result of zero injuries. In addition, TSRC Kaohsiung Factory's top management regularly conducts safety interviews with contractors' employers on a monthly basis, with a total of 20 interviews conducted in 2023. In addition to informing contractors of TSRC's regulations, the interviews also provide them with feedback on the factory's regulations.

TSRC also attaches great importance to the occupational safety of suppliers. Through the TSRC Supplier Code of Conduct, TSRC requires suppliers to implement safe operating procedures and provide employees with appropriate personal protective equipment, and requires suppliers to identify, evaluate, and control the effects of exposure to chemical, biological, and physical factors on employees through the hierarchical management control. TSRC conducts regular supplier evaluations and audits to ensure that suppliers comply with relevant regulations.



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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 education and 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 hazards of the work environment and prevent disasters.

TSRC sets emergency response procedures for raw material leaks, industrial pipeline leaks, fire accidents, and process safety incidents that may result from operating activities. It has 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 education and training.

Emergency Response Implementation Process



Number of Emergency Response Drills





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Occupational Injury Prevention

TSRC follows the ISO45001 management system and schedules annual health examinations for employees facing potential long-term health risks. We value the confidentiality of employee health examination information, and the results are provided to factory nurses and physicians for the purposes of labor selection, labor allocation, occupational disease prevention, and occupational health management. Medical staff will provide health guidance to the employees who have any abnormality in the examination. In some cases, the physician may recommend changing the workplace, changing the position, or shortening the working hours, while health management measures should be adopted. TSRC adopts early warning system to identify occupational hazard factors and carry out preparations to reduce hazards through better management, process changes, methods improvement, work hours adjustment, separation, and personal protection measures.

TSRC particularly manages five occupational hazard factors: noise, carbon disulfide, benzene, dust, and butadiene. Employees that expose to the five factors are classified into four levels and periodically examined by a doctor to determine if they have any abnormal health conditions. As all sites have noise as an occupational hazard factor, TSRC requires employees to properly use PPE to effectively manage the impact of noise on the health.

TSRC Occupational Hazard Factors



Note:

1. Only factories and subsidiaries with manufacturing activities within the reporting boundary are included. No occupational hazard factors apply to the trading-based subsidiaries, Polybus and TSRC (Lux.), and the Global Headquarter and the office of TSRC Specialty Materials LLC, which are mainly office operations.

2. Butadiene is included in the chemical items of each factory, but other chemical items vary depending on the use of each factory.

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TSRC does not use chemicals such as hepatotoxins, nephrotoxins, neurotoxins, and sensitizers. TSRC focuses on the potential hazards to employees from corrosive substances and suspected carcinogens. The Company conducts monitoring twice a year to identify actual risks, ensure that the operating environment meets the standards for permissible concentrations of chemicals to minimize the exposure of employees to chemicals. TSRC actively improves the operating environment and changes employees' behavior to reduce exposure to chemicals by requiring employees to comply with the Personal Protective Equipment Matrix (PPE Matrix). In addition, through annual special health examinations, TSRC regularly assesses the potential hazards to employees; with monthly visits from physicians dedicated to work-related illness and long-term health check, the impact and potential for disease are well monitored.

Improvement Measures to Reduce Exposure of Employees to Chemical Hazards

	Kaohsiung Factory	Nantong Industries, TSRC-UBE	Shanghai Industries	Shen Hua Chemical
	Updating Chemical Safety Information	Process Improvement - Reduce Fugitive Emissions	Process Improvement - Reduce Fugitive Emissions	New Equipment Setup
2023	Update the safety data sheet for chemicals in the plant every three years to ensure that chemical information is the latest.	The AO dosage extraction method was changed from open type to closed type to reduce VOCs fugitive emissions and reduce the risk of employee exposure.	Optimized the film extrusion line by changing the original in-line feeding system to a loss-in-weight feeding system to improve system sealing.	added to pump the fugitive VOCs to the storage-heat incinerator (RTO) for disposal, and control measures are implemented to reduce the hazards of VOCs emissions to personnel.
Measures	Improvement - Reduce Fugitive Emissions Improvement of the BR plant by enclosing the screw elevator to eliminate odor and VOCs from escaping and reduce the risk of employee exposure.		Added one set of suction feeding system to the application film extrusion line, so that the main material and powder material can be sucked in separately, and the powder material will not be affected when mixing in the middle of the main material, which effectively reduces the contact between the powder material and the staff.	

In the event of any injury or illness related to an occupational cause, TSRC all employees are required to report the incident through the TSRC HSE Incident Reporting and Database System, and the information and data will be analyzed by TSRC Global HSE. For more information on TSRC's occupational injuries and diseases in 2023, please refer to the Appendix.

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Incident Investigation and Improvement

TSRC has established the "Environmental, Health and Safety Incident Reporting and Investigation Procedure" to standardize the process and deadlines for notification and investigation of incidents. Each production site develops its own procedures based on this manual to ensure that all incidents are reported, investigated, and properly recorded. The preliminary investigation should be completed within two calendar days after the incident, including preservation of the site, inspection of the site and equipment, interviews with witnesses and personnel involved in the incident, review of necessary certificates and training, and SOP/WI review, to obtain the information needed for a detailed incident investigation. The detailed investigation should be completed within seven working days after the incident, including identifying the root cause and corrective and preventive action (CAPA), and completing the root cause investigation (RCI) within 18 calendar days.

Incident Investigation and Improvement Process



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 (LOTO), 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.

D Employee Notification of Environmental Safety and Health Incidents and Complaint Mechanism



- Encourage employees to proactively report near miss incidents, unsafe acts (UA), and unsafe conditions (UC)
- When an occupational hazard occurs, each plant must immediately report the incident through the "TSRC HSE Incident Reporting and Database System"
- 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 report to their immediate supervisor right away.
- Employees can seek assistance through the grievance mechanism when facing potential impacts or damage to their occupational safety rights.

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TSRC adopts the Total Recordable Injury Rate (TRIR) as a management indicator to monitor global operational safety. In 2023, six occupational injuries occurred among TSRC employees, including slip and fall fracture, coil folder laceration and fracture, finger splints, and slight burns on skin in contact with chemicals. The TRIR of all TSRC employees was 0.34, which had been decreasing for three consecutive years and reached the management target for 2023. (\leq 0.36).

Employee Total Recordable Incident Rate



There were seven occupational injuries to workers who are not directly recruited by TSRC, including finger injuries, fractures from falls, foot sprains, fractures from machine crushing the foot, and dislocation of the nasal bone, resulting in a TRIR of 1.09. Among the injuries for workers who are not directly recruited by TSRC, one case met the definition of serious work-related injury, which was caused by the contractor's inadequate troubleshooting knowledge and safety awareness, which resulted in the foot being pressed under the descending lifting platform. After investigating the incident, in addition to improving the 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, the company re-conducted hazard identification and risk assessment, examined its risk level, and formulated a Job Safety Analysis (JSA) for the operation employees. In 2023, TSRC had no Tier 1 process safety incidents and two Tier 2 process safety incidents^{Note}. For statistical data on occupational injuries and illness, please refer to the Appendix.

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.

2023 Tier 2 Process Safety Incidents

Minor burns to operator's skin

Unable to recognize the oil drainage status, the drain hand valve was opened too wide causing liquid ammonia to be discharged, and the staff did not wear PPE causing injuries.

Corrective and Preventive Action

Train personnel to identify the oil discharge status immediately through visible means (e.g. changing to transparent hose and observing LG level), and set up needle valves to adjust the oil discharge volume to avoid excessive oil discharge.

Isoprene leakage

Isoprene liquid seal line pressure increased due to temperature, causing flange gasket rupture and leakage.

Corrective and Preventive Action

Install pressure relief facilities in pipelines and require to empty pipelines after unloading to avoid further leakage.

Internal/External Audit

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TSRC conducts internal audits and management reviews annually at each factory. Kaohsiung Factory, Gangshan Factory, and the four subsidiaries in China, which have implemented and obtained ISO 45001 certification, conduct external audits regularly. The U.S. and Vietnam subsidiaries are planning to implement the ISO 45001 management system so that occupational safety and health management can be effectively managed in accordance with local occupational safety and health regulations, as well as the Group's policies, procedures, and requirements. For the number and proportion of employees covered by internal and external audits of each subsidiary, please refer to the Appendix.

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TSRC Workers Covered by an Occupational Health and Safety Management System



Note:

- This table includes only the number of employees and other workers at the sites within the reporting boundary that are audited internally and verified externally in accordance with ISO 45001. TSRC (Vietnam) Co., Ltd. and TSRC Specialty Materials LLC, which are not ISO45001 certified subsidiaries, and Polybus and TSRC (Lux.), which are two trading-based subsidiaries, and the Global Business Headquarter and the office of TSRC Specialty Materials LLC, which are mainly office operations, are not applicable to the OSH management system audits. The six sites are not included.
- 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 OSHM 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 OSHM system.
- Other workers' Internal Audit Coverage Rate = Total number of other workers subject to internal audits / total number of other workers at all audited sites. The denominator does not include other workers at sites that have not been audited by the OSHM system.
- Other workers' External Audit Coverage Rate = Total number of other workers subject to external audits / total number of other workers at all audited sites. The denominator does not include other workers at sites that have not been audited by the OSHM system.

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Health Promotion

TSRC cares about the health and wellbeing of the employees. TSRC provides an annual health examination for each employee in Taiwan and China sites, with a total of 1,527 participants in 2023. TSRC also organizes a number of physical and mental health promotion activities or seminars in each plant, with a cumulative total of 2,665 participants from 2022 to 2023. The factory nurse and the responsible section actively promote 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 the physical and mental health of employees. TSRC implements group medical insurance for its employees to provide comprehensive medical care and protection. TSRC is committed to promoting workplace tobacco prevention and implementing smoke-free workplaces. In January 2024, TSRC was awarded the "Badge of Accredited Healthy Workplace" by the Health Promotion Administration of the Ministry of Health and Welfare.

Aromatherapy scraping massage seminar

Health Promotion Measures at Each Plant



TSRC was awarded the **Badge of Accredited Healthy Workplace**

		Shanghai Industries Global business headquarter
Kaohsiung Factory Gangshan Factory	Shen Hua Chemical Nantong Industries TSRC-UBE	TSRC (Vietnam) Co., Ltd. Polybus Corporation Pte Ltd
		TSRC Specialty Materials LLC TSRC (Lux.) Corporation S.à.r.I
	Responsible Section	
Factory onsite professional nursesContracted occupational safety and health doctors	Clinic	General Affairs and HSE Department
	Health Promotion Measures	
 Monthly occupational safety and health doctor visit to the factory Handle labor health protection tasks such as health management, occupational illness prevention and health promotion 	 Organize employee health protection and promotion activities, and public education 	 Organize regular health examinations Sign a medical emergency agreement with neighboring hospitals to provide medical consultation and timely treatment for employees in the event of accidents and injuries
 Promote first aid, health examinations, employee health management and promotion activities, and medical and healthcare services for employees 		
Intesting bealth seminar	Lay body & mind during the pandemic –	Promotion activities



3.2.2 Employee Remuneration and Benefits

Employee Remuneration

TSRC provides reasonable salaries 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 salaries 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, there is a significant difference in salary between genders.

To continuously increase the competitiveness on the labor market, TSRC reviews the 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\$2,412,279,000 in 2023, up 2.5% compared to 2022. Average compensation and benefits expenses significantly increased to NT\$1,460,217, slightly higher than 2022. TSRC continues to provide competitive compensation and benefits associated with the annual earning to attract and retain outstanding talent for innovation.

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Ratio of Basic Salary and Remuneration of Women to Men

	TSRC Corporation (includes Global Headquarter, Gangshan Factory, and Kaohsiung Factory)		Shen Hua	Chemical	Nantong I	ndustries	TSRC	-UBE	Shanghai	Industries	TSRC(V Company	'ietnam) y Limited	TSRC S Materia	pecialty als LLC	TS (LL	RC JX)
Year	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023
Supervisors	72%	74%	101%	92%	56%	57%	50%	66%	80%	80%	No employees	No employees	86%	83%	None are female	None are female
Indirect Employees	97%	96%	69%	71%	69%	72%	64%	63%	75%	88%	178%	147%	74%	75%	62%	56%
Direct Employees	None are female	None are female	82%	87%	58%	66%	64%	65%	None are female	None are female	None are female	None are female	86%	69%	No employees	No employees

Note:

1. 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 service seniority allowance, 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).

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

3. Polybus has no direct employees and no female supervisors or indirect employees in 2023. In 2022, Polybus has no direct and indirect employees and no female supervisors.

Salary and Benefits (Unit: NT\$)

Year	Number of employees	Number of non-managerial staff	Average salary of non- managerial staff	Median salary of non- managerial staff	Salary and benefits expenses	Average salary and benefits expenses
2020	1,587	1,557	950,624	708,234	1,828,747,000	1,152,330
2021	1,604	1,571	1,064,601	815,555	2,230,365,000	1,390,502
2022	1,628	1,594	1,078,887	820,683	2,354,249,000	1,446,099
2023	1,652	1,618	1,060,014	789,924	2,412,279,000	1,460,217

Note:

1. In 2020, the company received government-related salary subsidies and insurance reductions due to the impact of the pandemic.

2. The average and median salaries of non-managerial staff are based on the "Non-Managerial Full-Time Employee Salary Information" published by the Taiwan Stock Exchange.

3. The Group's salary and benefit 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 to Board of Directors.

4. Average exchange rate in 2023 was TWD:USD=31.1575:1; TWD:RMB=4.3967:1; TWD:VND=0.00131:1; TWD:EUR=33.6896:1; TWD:SGD=23.2023:1; TWD:CHF=34.6994:1.

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Employee Benefits

TSRC provides comprehensive employee benefits and insurance after considering its 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.

Employee Benefits



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2020-2023 Employee Benefits Expenses



Note

- Benefits include insurance, holiday bonuses, meal and transportation allowances, pension, housing allowances, sickness and injury allowances, and other employee benefits.
- 2. Average exchange rate in 2023 was TWD:USD=31.1575:1; TWD:RMB=4.3967:1; TWD:VND=0.00131:1; TWD:EUR=33.6896:1; TWD:SGD=23.2023:1; TWD:CHF=34.6994:1.

Retirement Plan

TSRC provides employees with insurance and pension in accordance with 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 pension every month to staffs' accounts set in the Taiwan Bank and the account set in 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 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, the employee 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. For subsidiaries in The Vietnam, Singapore, and European factories also follow local laws and regulations to ensure the welfare of employees.



3.2.3 Human Rights and Labor-Management Communication

Human Rights Protection

TSRC upholds the rights and interests of our employees and develops TSRC's <u>The Personnel Rights and Interests Protection Policy</u> 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 to provide a safe, and healthy working environment for their work safety and physical and mental health.

The Human Resources and Management Department is responsible for implementing and executing human rights policies, identifying risks related to employee rights, and formulating corresponding management measures. We regularly assess the effectiveness of the measures and adjust them based on the assessment results. The CEO is responsible for supervising management and reviews disclosures of human rights-related information annually to ensure the well-being of the employees is not compromised. In July 2023, the CEO reported ESG-related issues to the Board of Directors, which also included human rights management status. TSRC regularly conducts human rights education for employees and receives employees' suggestions through the grievance mechanism.

Regarding human rights issues on suppliers, the Legal Affairs Department and Supply Chain Department jointly formulated the "TSRC Supplier Code of Conduct" based on international human rights norms, which stipulates the human rights standards that suppliers must comply with. The Supply Chain Department is responsible for implementing the Code, including reviewing the status of suppliers and monitoring their setting of the grievance mechanism and remedial measures adopted by suppliers. For information about sustainable supplier management, please refer to <u>4.3.1 Supplier Management</u>. Regarding customer concerns about the actions and measures taken by TSRC on human rights issues, the Synthetic Rubber and Advanced Materials Business Division communicates directly with customers to understand their concerns. In addition to actively responding to customer questionnaires and providing relevant management measures, TSRC also uses sustainability questionnaires every year to understand the customers' concern about TSRC's implementation of human rights protection. "TSRC Corporate Governance Best Practice Principles" also regulates business practices to respect and protect the legitimate rights and interests of customers, banks, creditors, investors, and other stakeholders.



7 TSRC Management Framework for Human Rights Issues



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Human Rights Concerns and Practices in 2023

	Topics	Mitigation Measures	Remedial Measures	Grievance Mechanism	Mechanism for Seeking Advice or Raising Concerns	
0	Providing a safe and healthy work environment	 Comply with ISO 14001 (Environmental Management System) and ISO 45001 (Occupational Health and Safety Management System) to ensure a safe working environment. Establish a dedicated occupational safety and health unit and committee, hire professional doctors and nurses, and regularly conduct education and training to take necessary preventive measures to prevent occupational accidents and reduce the risk factors in the working environment. Establish safety and health work rules. 	 Immediately position the employee away from the original assignment Provide adequate medical assistance. Provide leave and salary compensation in accordance with the law. Conduct investigation through the Occupational Safety and Health Committee, and find out the details of the accidents or abnormal situations with the support from doctors and external specialist. 	 Submit a complaint directly to the supervisor. Report to the factory's professional nurses. Internal grievance mailbox. Whistleblower mailbox. 	 Seek medical advice and physical and mental health assessment from the onsite nurse. Employees in Taiwan can use the Life Coach hotline to seek external professional counseling to safeguard employees' physical and mental health. 	
2	Prevention of harassment and providing grievance appeal mechanisms and channels	• Develop the "Sexual Harassment Prevention Measures, Grievance Appeal and Punishment Regulations," and take appropriate preventive, corrective, disciplinary, and handling measures.	• If the situation is true, disciplinary actions will be taken against the sexual harassment offender, and the harassed person may need to adjust their duties or work area and maintain their physical and mental health as appropriate.	 When an employee is harassed, the Complaint Letter" or submit their harassment hotline or whistleblo website. For verbal complainants sufficient information for investig. After receiving a complaint, the Hwill report to the CEO and form a Handling Committee" to carry output to the carry output the carry output to the carry out	they can submit a "Employee or grievance to the company's sexual ower mailbox on the company s, a record must be kept ensuring gation. Human Resource Department "Sexual Harassment Complaint tt an investigation.	
€	Eliminating employment and recruitment discrimination	• Develop the "Employee Appointment and Change Management Measures" to establish a systematic and institutionalized recruiting mechanism to avoid differential treatment or discrimination.	• If discrimination occurs during recruitment, the company will take disciplinary actions against the relevant personnel in accordance with internal punishment. The Human Resource Department will then restart the recruitment process.	Internal grievance mailbox.Whistleblower mailbox on the co	mpany website.	
4	Prohibiting child labor	 Follow the government labor laws and regulations, regarding the minimum age for employment, and ensure no employing child labor. The "Employee Appointment and Change Management Measures" clearly stipulates that individuals under the age of 16 are prohibited from employment. 	• If child labor is found, we will review the employment process again and impose disciplinary actions in accordance with internal regulations.	Internal grievance mailbox.Whistleblower mailbox on the co	mpany website.	

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	Topics		Mitigation Mea	asures		Remedial N	leasures	Grievance Me	echanism	Mechanism for s or Raising	Seeking Advice Concerns
6	No forced labor	 Establish the "E Management N Leave, and Ove specify individu duties and spe according to th TSRC's regulat working hours, all comply with coerce any em services. TSRC's regulat overtime mana overtime or en 	Employee Appointr Measures" and the ertime Managemer ual labor responsite cify that employees heir own wishes. ions on employees hegal regulations. uployee who is unw cions for employee agement do not for gage in compulsor	ment and Chang "Employee Atter nt Regulations," v pilities based on j es can resign at a s' normal and ext ve, and other type TSRC does not f rSRC does not f rSRC does not f attendance, leav rce employees to ry labor.	e ndance, vhich job any time tended es of leave force or labor ve, and o work	• Employees whovertime are ended to overtime participations of the compensatory of the	o work ntitled y or leave.	Internal grievanWhistleblower r	company website.		
6	Assistance in maintaining employee mental and physical health and work-life balance	 There are nurse provide medica Establish the "E Management F Regularly provi lectures, and o family leisure t 	es or doctors on-s al consultation to e Employee Attendar Regulations." ide employees with rganize a wide ran rips to relieve stres	ite at the factorie employees. nce, Leave, and C h health checkup ige of activities s ss.	es to Overtime os, and uch as	 If employees r leave due to h they can apply without pay ac established pr 	eed long-term ealth reasons, for leave cording to the ocedures.	 Seek medical ad from the on-site Employees in Ta external profess physical and medical 	lth assessment ne to seek ployees'		
0	Employees' freedom of association	 Labor/manage engages in dis meetings, incluspeech and co TSRC has labo employees' cho employee orgation 	ement meetings are cussions with emp uding communicat illective bargaining or union organizatio oice to join the unio anizations.	e held regularly. bloyees through c ion about freedo ons, and we resp on or other types	TSRC official om of ect s of	 If there are dif of opinion bett and the managem review the issu arrange appro to communica reduce conflic misunderstan achieve mutua 	ferences ween labor gement, ent will ue and priate staff te again to ts and any dings, aiming to al agreement.	Internal grievanWhistleblower r	ompany website.		
8	Maternity protection	 Establish a mat a friendly enviro exclusive parkir Each year, the o Protection Impl evaluation, and Committee. Sup plan and regular 	ternal health protect onment for expecta ng spaces and child on-site nurse condu lementation Record reports to the Occu ggestions will be in ar tracked the imple	tion plan. TSRC p int mothers, inclu dcare bags. icts the "Maternal d" as the performa upational Safety a cluded in the nex mentation progre	provides ding I Health ance and Health t year's sss.	 If the assignm to expectant n employee will from the origin environment. 	ent is harmful hothers, the be shifted hal work	Consultation ca	in be sought froi	m the on-site nurse	e or doctor.



Labor and Employer 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 the meetings, specific topics are discussed to reach a consensus. The coverage rate of collective bargaining agreements is 100% for the TSRC Corporation (Taiwan), TSRC' s subsidiaries in China, and the subsidiary in Vietnam. 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 through reporting to line manager, the Human Resource Department, and the employee grievance mechanism. The working conditions of employees not covered by collective bargaining agreements are not affected by the agreements. For the percentage of employees covered by collective bargaining agreements in each subsidiary, please refer to the Appendix.

Employee Engagement

TSRC attaches great importance to employee opinions and conducts an engagement survey every three years to systematically understand employees' thoughts through questionnaires and use the results as an important reference for optimizing management and measures. TSRC completed the global employee engagement survey in 2022. In 2023, TSRC focused on areas with lower scores, and the HR team collaborated with functional units to promote continuous improvements and formulated plans to enhance employee engagement, and closely tracked progress and results to strengthen organizational team cohesion. TSRC conducted an organizational survey (e-NPS) in 2023, covering both the Taiwan factories and overseas subsidiaries. The response rate has increased by 0.9% with the e-NPS increased by 5.6 points compared to last year.



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3.3 Enhance Social Engagement

Core Concept	The spirit of investing resources and contributions to meet social nee	eds and creating shared value.
Promotion Strategy	Community Involvement TSRC maintains close communication with the community, responds promptly to the relevant needs of the community, and fosters a mutually beneficial and collaborative relationship between the factory and the community.	Industry-Academic Collaboration Long-term promotion of chemistry education, emphasis on industry- academic collaboration and talent cultivation; fostering "Chemistry on the Go" activities; and exerting a positive influence on society.

3.3.1 Impact on the Society

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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. With regard to developments and prosperity in the community, TSRC aims to promote the community activities with local government and create social impacts. Through charity activities, volunteer programs and educations, TSRC takes practical actions to support community development and create mutual value actively.

2023 TSRC Charity Activities

Category	Item	Charity contribution	Number of Beneficiaries or Participants
	Meal sponsorship and Tuition assistance for underprivileged students in Dashe district.	NT\$440,000	Underprivileged students from three elementary schools in Dashe district
	Children Are Us Foundation	NT\$60,000	-
	Purchase of Mid-Autumn Mooncake Gift Boxes from the Delicious- Flavor Restaurant of the Sheltered Workshop.	NT\$502,810	653 employees benefited
Cash	The donation from Shanghai Industries	NT\$43,967	28 people participated in the sponsorship of 8 students from the Third Complete Primary School in Nangqian County, Yushu City, Qinghai Province
	Small-Farmer program	NT\$1,045,569	Purchased 700 packages of mushrooms from Xinshe, 700 bottles of tea seed oil
	TSRC Nantong Charity Foundation	NT\$659,505	 The fund was coordinated by Nantong Development Zone Charity Foundation for tuition assistance and emergency relief A total number of NT\$131,901 (RMB\$30,000) was provided for emergency purposes for TSRC employees in 2023
Charity	Walk to End Alzheimer's (End Alzheimer's disease with walking)	NT\$21,031	6 colleagues and their family members participated
Events	50th Anniversary Beach Cleanup Activity Series (Taipei Gongliao, Kaohsiung Cijin)		232 participants in total
Supplies	TSRC Specialty Materials LLC donated school supplies and stationery	The supplies worth NT\$16,200	2 schools benefited (Mortan Ranch Elementary, Texas and Lukeville Elementary School, Louisiana)
	Shanghai Industries Mid-Autumn Festival Fruit Caring Activity	The supplies worth NT\$19,345	Fruit was sent to the Fire Department of Yongfeng Street, Songjiang District
	Donated Good-Food packs to Kaohsiung Municipal Renwu High School Petrochemical Industry-Academia Program	The supplies worth NT\$54,600	120 students benefited
Other	DEI Diversity and Inclusion Employment Program	-	Introduced 1 visually impaired masseur to provide massage services for Kaohsiung Factory employees

TSRC Specialty Materials LLC donated school supplies



ustries contributed to supported learning 南藤田前三宮。

Note: The average exchange rate in 2023. TWD:RMB - 4.3967:1, TWD:USD - 31.1575:1.

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Heart to Heart & Make Happiness

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Collaborate with sheltered workshops to assist people with disabilities in finding employment opportunities

- The TSRC purchased the Mid-Autumn Mooncake Gift Boxes from the Chinese and Western Bakery of the Sheltered Workshop to help the mentally and physically challenged find employment and enhance their sense of fulfillment and value at work.
- The mooncake gift boxes were given to employees with the intention of encouraging them to care about the disadvantaged in society.



Love is Everywhere

Meal sponsorship and emergency relief for children in three elementary schools in Kaohsiung

- TSRC cherishes every child, and helps support underprivileged children in communities through meal sponsor. Starting in 2012, TSRC allocates NT\$440,000 every year to sponsor the lunch for underprivileged students in three elementary schools (Dashe Elementary School, Guanyin Elementary School, and Jiacheng Elementary School) nearby the Kaohsiung Factory.
- As young students are the future hope of Taiwan, TSRC visits the three elementary schools every year to understand the students' situation. In 2023, TSRC took practical actions to care for young students in Taiwan by donating Good-Food packs.



TSRC values its relationship with local residents. Through various channels, TSRC will continue to learn about residents' suggestions and opinions about its operating bases and cooperate with local authorities to promote policies, with the following activities in 2023:

Kaohsiung Factory

By participating in the three Factory Association activities in 2023, including the Slow Softball Competition co-organised by the Ministry of Economic Affairs Technology Industrial Park and Ren Da Industrial Park, the Fishermen's Association English Workshop at Ke Liao Elementary School and the Fishermen's Association Seafood Festival Activities. The Kaohsiung factory has 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.

Shen Hua Chemical

In response to the frequent occurrence of telephone scams, the head of Shen Hua Chemical cooperated with the local authorities in publicity activities in July 2023. The head went to the local Fumin community to conduct publicity on phone fraud prevention, which increased interaction with local residents and reduced the risk of being scammed. The event also gave local residents more opportunities to get to know the company.

3.3.2 Industry-Academic Collaboration

Chemical professionals are the driving force for 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. Further, this will 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 2023, TSRC have participated in more than 20 activities in Kaohsiung. It utilizes a retrofitted 3.5-ton truck to create a mobile chemistry venue, touring around schools to promote chemistry education. The "Chemistry on The Go" activity designs several scientific experiments to help students understand the intriguing chemical reactions. The lecturers also explain the diverse applications of rubber products in daily life, helping students understand why TSRC's rubber products are important and better understand TSRC's business strategies. Through volunteerism, 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.
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In celebration of TSRC's 50th anniversary in 2023, TSRC and Tamkang University are collaborating to expand the Public Welfare Chemistry Camp by inviting five remote junior high schools in Kaohsiung (Taoyuan, Baolai, Maolin, Xipu and Jiaxian) to participate in the program. The program included hands-on experiments, activities and expert lectures to help students understand the wonders of chemistry in a fun and educational way. 350 teachers and students participated in the event, with students responding that the event was interesting and fulfilling. After the program, a number of positive feedbacks were received from teachers and students.

Chemistry on The Go

Tamkang University and Kaohsiung Dashe Junior High School

Number of participants in 2023 118 people

Partners

Uses a mobile chemistry venue, Chemistry on The Go, touring around schools to promote chemistry education. And leads students to conduct chemistry experiments and experience the wonders of chemical reactions.



Public Welfare Chemistry Camp

Partners Tamkang University and 5 junior high schools in Kaohsiung

Number of participants in 2023

Expert sharing: TSRC's R&D Director leads the R&D team to introduce TSRC's focus and achievements in chemistry and chemical engineering, and to provide hands-on instruction on experimental techniques and principles.

Guided Tour: A lecturer leads students to visit the Science Laureates Exhibition at the National Science and Technology Museum to help them understand the scientific principles behind the achievements of the Nobel laureates in science and their impact and contribution to human life.

Hands-on experiments: Two experiments, "Rubber Lava" and "Frozen Fragrance Plate", are designed to use SBS and SEBS, the raw materials produced by TSRC, for students to make hotmelt adhesives and fragrance products that can be found everywhere in our daily lives, to help students understand and experience the physical properties of hot-melt elastomers.



350 people

Petrochemical Industry Specialty Courses

Partners Renwu High School

Number of participants in 2023

35 people

The course covers GHG emission reduction in factories, air pollution reduction, soil and groundwater pollution remediation, and on-site visits. TSRC offers on-site practical courses and facilitates students to receive lectures in colleges.

TSRC executives give presentations to help students understand TSRC's operations and ESG development, as well as to help them understand the contours of the chemical industry. Students who participate in the course and decide to pursue higher-level education

will also be offered priority if they have an interest in joining TSRC when they graduate. Students who do not pursue higherlevel education will have the opportunity to be recommended to TSRC's partner for employment.



Industry-Academic Collaboration

TSRC is engaged in science and chemistry-related exchange activities at colleges and universities. Through exchanges on the current state of the industry and the sharing of TSRC's operations and ESG promotion, 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.

In 2023, TSRC participated in the Kaohsiung University 2023 Annual Chemical Conference and delivered a keynote speech to introduce TSRC's company and ESG sustainable development. The head of TSRC's R&D Division also engaged with students and faculty members on-site to address their questions about the chemical industry. A total of 598 questionnaires were received following the event, indicating a high level of interest among students in the career development of chemistry.



Chapter 4 Governance

To fulfil corporate governance responsibilities, TSRC continues to strengthen its 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 flexibly respond, ensuring high stability of products and services.

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R&D expenses in 2023

+ 1.2% compared to 2022

R&D expenses totaled NT\$397 million in 2023

Patents approved for **449** cases

20 patents were approved in 2023, doubling the number of patents granted from the previous year Local procurement by the TSRC Group accounted for **78%**

Local procurement in Taiwan accounted for 78% of the total procurement amount in 2023

Material topics

['] Risk management / Compliance / Sustainable innovation / Sustainable supply chain management

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Material topics | Risk management

Corresponding Chapter 4.1.2 Risk management



Policy

TSRC Enterprise Risk Management Policy



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



	2023 Achievement	2023 Goals	2025 Goals	2030 Goals						
Target and Achievement	 Completed annual climate risk assessment and disclosure. Integrated climate-related risk factors into enterprise risk management. Reported 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 mechanism, protection measures, and timely disclosure.	Strengthen risk monitoring and improve operation management via digital management system.	Continuous improvement on global risk management and crisis response mechanisms.						
Actions Ta	 Conduct annual risk identification Develop countermeasures and a 	on. actions for "priority risks" and "risks requiring	immediate action".							
Processes to the effective	 The Executive Leadership Team Review the actual status of risk them into the new annual risk as 	 The Executive Leadership Team reports the status to the Board of Directors every year. Review the actual status of risk management actions taken in the Q1 of last year, and incorporate them into the new annual risk assessment and strategy. 								
Engagemen stakehold	t with To address regional risks, TSRC wo lers through regular discussions with m	orks with local manufacturers to continuously nembers of factory associations and petroch	y communicate with authorities; the effective emical associations on countermeasures ar	eness of communication is tracked nd action plans.						

Ø Mat	erial topics Compliance		Corresponding Chapter <u>4.1.5 Compliance</u>					
Policy	Corporate Governance Guidelines Code of Ethics Code of Business Conduct Management Procedure for Insider Trading Management Procedure for Antitrust Compliance	TSRC complies with the areas of governar commitment to fulfill its social resp	domestic and international laws and regulations in nce, environment, products or services, and finance ponsibilities and pursue sustainable development.					
	2023 Achievement	2023 Goals	2024 Goals					
Target and Achievement	There were two environmental penalties in violation of Article 23 of the Air Pollution Control Act, with fines of NT\$645,000.	Environment, Health, and Safety (EHS) violation fines ≤ 4 per year.	Environment, Health, and Safety (EHS) violation fines ≤ 2 per year.					
Actions T	 Continuously strengthen the environmental r regulations, including air pollution, wastewat Continuously improve employee care and pro Take immediate action to remediate negative non-compliance. 	nanagement at each plant to comply with various environm er discharge, and waste disposal. otection to meet local regulations. e environmental and social impacts caused by	nental					
 Processes to track the effectiveness The Head of Legal Department and the Head of Operational Division respectively report to the Executive Leadership Team from time to time the status of compliance with laws and regulations of the company and its subsidiaries. The Head of Legal Department reports on the implementation status of ethical corporate management to the Board of Directors once a year. When non-compliant environmental, safety and health fines or violation penalties occur, development of preventive measures in the TSRC Incident Notification System are enforced in accordance with the EHS Incident Reporting and Investigation Procedure, and incorporated into operational measures and planning, and continue with tracking to ensure improvement. 								
Engageme stakehol	ht with In 2023, suspected cases of conflict of interest activities.	were investigated, ending in the termination of the employm	nent relationship to avoid the occurrence of illegal					

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Material topics | Sustainable innovation

Corresponding Chapter 4.2 Develop Innovation Momentum

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.

	2023 Achievement	2023 Goals	2025 Goals	2030 Goals							
Target and Achievement	 New products accounted for 16% of total revenue. Obtained first national patents for 4 patents and received patent awards. Patents approved for 20 cases. TSRC filed 543 global patents. Total of 449 Global Patents Granted. 	 Continuous development of new products. Obtained first national patents for 4 patents and received patent awards. Patents approved for 20 cases. 	 New products account for more than 15% of revenue. 	• Continuously increase new product revenue share.							
Actions Ta	 Set up an innovation incentive mech Organize innovation and technology and sustainable products. 	nanism to promote innovation and technolo exchange activities to promote the positiv	ogy development. e impact of TSRC's innovative	ρ							
Processes to the effective	 Processes to track the effectiveness Conduct R&D related activities, including product or process development, product quality improvement, etc., in accordance with annual planning. Evaluate the development progress and report to the management team in a timely manner to understand the development situation and specific results. Quarterly review by the management team on the percentage of revenue from new products. 										
Engagemen stakehold	 In 2023, we collaborated with Special professionals in the adhesive field, a Participated in and organized 4 tech with downstream manufacturers. 	alChem, a technology exchange platform, t and developed 150 potential customers. nical conferences and seminars, and 5 tec	o participate in interviews. This helped to ex hnology seminars to exchange product inne	kpand communication with ovation and technology application							

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Material topics | Sustainable supply chain management

Corresponding Chapter 4.3 Enhance Supply Chain Managemen

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Policy

TSRC Group Supplier Code of Conduct



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.

	2023 Achievement	2023 Goals	2025 Goals	2030 Goals				
Target and Achievement	 Confirmed that the top 20 suppliers in terms of annual procurement amount have greenhouse gas reduction targets or plans, and have already carried out reduction activities. The global proportion of locally sourced raw materials (in terms of value) has reached 78%, and we continue to seek out suppliers of locally sourced renewable raw materials. 	 Promoted the reduction of greenhouse gas emissions by the top 20 suppliers in terms of annual procurement amount, and have targets and action plans. Global local procurement of raw materials (amount) to reach 70% and seeking out suppliers of locally sourced renewable raw materials. 	 Promote the reduction of greenhouse gas emissions by the top 50 suppliers in terms of annual procurement amount, and have targets and action plans. Global local procurement of raw materials (amount) to reach 75% and seeking out suppliers of locally sourced renewable raw materials. 	 Promote the reduction of greenhouse gas emissions by all suppliers and have targets and action plans. Global local procurement of raw materials (amount) to reach 80% and seeking out suppliers of locally sourced renewable raw materials. 				
Actions Ta	 Require all suppliers to follow the TS Select suppliers for annual written o Survey suppliers' sustainability risks making improvements if their self-as TSRC will continue to promote greet suppliers' carbon reduction plans an Regularly conduct non-hazardous m material regulations and internations When purchasing related equipment labels, and responding to the concep in China, Vietnam, and the U.S., to assist 	 Require all suppliers to follow the TSRC Group Supplier Code of Conduct and return the signed document to commit to fulfillment. Select suppliers for annual written or onsite evaluations to prevent negative impacts on the environment and society. Survey suppliers' sustainability risks through questionnaires. Conduct physical audits of factory sites and make recommendations to assist suppliers in making improvements if their self-assessment results do not reach a score of 70. TSRC will continue to promote greenhouse gas reduction to the top 50 suppliers by reviewing suppliers' ESG disclosure information annually to understand 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, and responding to the concept of circular economy. We promote local procurement at our Taiwan factories, and also expand this to our subsidiaries in China. Vietnam, and the LIS, to assist local factories in establishing a birth-efficiency. Jow-carbon chemical industry chain. 						
Processes to the effective	 Conduct annual supplier audits and period of time based on a grade of " Quarterly review of the percentage of the percen	evaluations, and request suppliers to subm C" or below in the audit evaluation. f locally sourced raw materials by the man	it improvement results within a specified agement team.					
Engagemen stakehold	t with Conduct interviews with suppliers from the supplier audit evaluation mechanism	time to time to understand suppliers' ESG n.	risk management measures and adjust					

4.1 Strengthen Corporate Governance

TSRC has upheld the mission of stable operations for years, with ethical corporate management as its principle, adhering to laws and related regulations, and establishing a sound governance structure and supervision mechanism. Corporate governance is a cornerstone of promoting ESG. The TSRC Board of Directors, under the leadership of the CEO, effectively promotes the implementation of ESG goals and reports the results and future work plans to the Board of Directors regularly. At the same time, TSRC has established a comprehensive corporate risk management mechanism, integrating potential risks and opportunities that affect the company's operations, combining the company's long-term development strategy, and promoting sustainable business operations.

4.1.1 Board of Directors and Functional Committees

Duties of Board of Directors

Nomination and Election Directors

The election of 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 shares. Candidates nominated by the Board are considered based on their professional background, expertise, and independence. When the Board is re-elected, the major shareholders shall nominate candidates in consideration of relevant qualifications and the Company's strategic development. The Board will consider relevant proposals and discuss the nominated candidates based on the Company's needs, diversity policy, and succession plan. Once approved by the Board, the nominated candidate will be proposed for election at the shareholder meeting.

The TSRC Board of Directors consists of 7 members, including 1 female director (14%) and 3 independent directors (43%). The term of office of the directors is three years, and four seats for legal entities representatives, who are the top ten shareholders of TSRC. There are no members of underprivileged social groups in the Board. The Board is led by the Chairperson and meets at least once a quarter to decide on the business policy, implement a good corporate governance system, strengthen supervision, and improve management functions (including environmental and social risks, opportunities, and impacts), making every effort to maximize the rights and interests of stakeholders. To avoid conflicts of interest, the Chairperson of TSRC does not serve as the CEO. For more details on the disclosure of conflict of interest, please refer to TSRC's 2023 Annual Report.

Board diversity

TSRC has included the diversity policy in Section 21 of the "<u>Corporate</u> <u>Governance Guidelines</u>". Members of the TSRC Board of Directors should possess the necessary knowledge, experience, and skills to perform their duties, and having the ability to embed TSRC's business characteristics, operation, market, and future development into the decision-making. The current Board members come from various professional backgrounds and have experience as senior executives in multinational corporations. The 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 <u>TSRC's 2023</u> Annual Report.

Independence

TSRC "Procedure Rules of the Board of Directors meeting" and "Audit Committee Charter" both clearly state provisions for the recusal of directors' interests. 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 should 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," clearly disclosure channels and procedures. As part of this process, the Human Resources Department provides an annual survey for employees to disclose any conflicts of interest. Additionally, TSRC offer communication channels for employees to voluntarily disclose conflicts at any time. For more information on the involvement of directors in other boards and cross-shareholding situations, please refer to TSRC's 2023 Annual Report.

Refresher courses

Training courses for Board members and senior management are organized each year to enhance the skillset of Board members and to increase the overall knowledge of the highest governance body on economic, environmental, and social issues. Please refer to <u>TSRC's 2023 Annual Report</u> for more information on the profiles, backgrounds, terms of office, and training taken by the Board members. 115

ESG management

The Board of Directors has commissioned the CEO to lead an Executive Leadership Team (also named ESG Steering Committee) consisting of the heads of each functional unit to formulate ESG strategies, medium- and long-term goals, and reporting directly to the Board of Directors. The Board approved TSRC ESG strategy and long-term goals in 2022. Through the CEO's report to the Board on the status of ESG implementation and the sustainable development plan, the Board proposed suggestions to the CEO to strengthen the ESG adoption. The Board was highly concerned about climate-related physical and transition risks. In January, May, August, and November of 2023, the Executive Leadership Team reported to the Board on the operational status, including the climate-related risks and response measures taken by each site. Climaterelated risks were considered by the Board when planning the annual budget, and TSRC's investment plans about energy conservation and carbon reduction are increasing each year to respond to risk. For more information on the management of ESG issues by the Board of Directors and the Executive Leadership Team, please refer to section 1.2.2 ESG Management Framework

Corporate Organization Chart Audit Commit Board of Directors Chairman Compensation Compensatio	 TSRC has established two functional committees under the Board: The Audit Committee and the Compensation Committee. Members of the Audit Committee must have accounting or financial expertise. In order to implement corporate governance and support the work of the Board of Directors and shareholders' meetings, TSRC has established 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 make timely recommendations for improvement. Please refer to TSRC's 2023 Annual Report for details on the committee members, the head of
Officer	corporate governance, and the operation of the internal audit system.
Internal Auditing Office Chairman's Of	ision ctors fice
CEO Safety, Health & Environment Section	 Composed of three independent directors 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 every year
Synthetic Rubber Division Advanced Materials Business Division Operational Division Research and Development Division Finance Division Human Resources and Aanagement Department Legal Department	 Compensation Committee Composed of three independent directors Composed of three independent directors Responsibilities include establishing and periodically reviewing director and manager performance evaluation standards, and the remuneration policy, system, standards, and structures. The committee regularly evaluates the attainment of performance goals by the Company's

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• Holds at least 2 meetings every year

their individual remuneration

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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 "Procedure of performance evaluation of Board of Directors", the internal performance evaluation on the Board of Directors (including functional committees and individual directors) is conducted once a year, and the external one is conducted by an external professional and independent organization at least once every three years. The results of the evaluations are reported to the Board as a reference for continuous improvement.

In 2023, 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-assessment were considered as a reference for reappointment of directors. For more information regarding the performance evaluation, please refer to <u>TSRC's 2023 Annual Report</u>.

Remuneration Policy for the Board of Directors and Senior Management

In accordance with the "Article 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, the performance of material topics (such as business strategy, operational performance, risk management, the promotion of ESG and sustainable development goals), and the Board of Director's performance evaluation result. The compensation also refers to the domestic and international director's compensation structure and trends. TSRC adopts fixed compensation and differentiates the compensation between independent directors and general directors. All independent directors of TSRC serve as members of the Audit Committee and the Compensation Committee and participate in the review of the remuneration policy, and policy is approved by the Board of Directors.

The 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 the level of participation, the meeting attendance per year, and the additional time they invest. Reasonable compensation is provided based on the TSRC's operating performance and the industry's standards. According to the "Article of Incorporation", if the Company is profitable that year, it will allocate not less than 1% as employee bonus and not more than 1% as directors compensation. TSRC does not have remuneration consultants involved in determining remuneration. The director's remuneration in 2023 will be reported in the 2024 shareholders' meeting once it was agreed by the Board.

The remuneration policy for senior management is performance-based, taking into account the sustainability and operating performance and factors such as individual experience and ability, level of responsibility, contribution to the operating objectives, market salary levels, and internal equity. Additionally, 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 implement after approval by the Board of Directors. Considering the significance of the Group's ESG strategic goals, the performance targets or job responsibilities of TSRC's senior management are tracked through scorecards and are consistent with the company's key ESG goals or action plans. Bonus and compensation include recurring payments and non-recurring payments based on a combination of the Company's and individual performance. For detailed on the compensation of directors and senior management, please refer to TSRC's 2023 Annual Report.



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

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. In 2023, As the total compensation of the highest-paid individual and the median total compensation of other employees both decreased compared with last year, therefore, both values were negative.

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4.1.2 Risk Management

Risk Management Policy and Framework

TSRC established the "<u>Risk Management Policy</u>" setting forth clear risk management principles, responsibilities, and operating mechanisms. TSRC also set up the "Risk Management Operating Procedures" to carry out all risk management procedures and related operations, implementing risk management in all aspects of its operations and decision-making. The Board of Directors is the highest governance body for TSRC's risk management, and the CEO and the heads of operational units are responsible for risk management, and the risk management team carries out improvement actions. In January, May, August, and November 2023, the Executive Leadership Team reported to the Board of Directors four times on operational risks. 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 Risks and Opportunities.

To provide the Board of Directors with an immediate understanding of TSRC's operations and climate-related risks, A report to the Board of Directors is conducted on a quarterly basis in 2023. In July, the status of disclosure of climate-related risks was reported to the Board of Directors. The status of risk management, climate risk assessment, and implementation was reported in October to the Audit Committee and in November to the Board of Directors. In addition, taking into account the increasing importance of information security to the organization, the implementation status of information security risks was reported to the Board of Directors in November.



TSRC's Risk Management Framework



- Responsible for the management of 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.

Risk Management Taskforce

- Implement risk management items or projects
- Team members come from various function 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.

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Internal Auditing Office

• Check the risk management performance of each unit through annual and project audit.

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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 team conducts risk identification based on the previous year's risk management results, taking into account the external environment, the company's operational needs, and emerging risks to identify annual risks. After evaluating the "likelihood of occurrence" and "impact level" of the risks, the management team identifies "priority risks" and "risks requiring immediate action" and prepares countermeasures and actions accordingly.

In 2023, the Corporate Development Department initiated the annual risk management process. The Risk Management Task Force identified 78 important risks based on the company's internal and external environments. After ranking these risks using the risk matrix, the ESG Committee selected 19 "Priority Risks", these risks include strategic risks, regional and industrial risks, operational risks, financial risks, ESG-related risks, research and development and intellectual property management risks, cybersecurity and information technology risks. The effectiveness of management actions was then analyzed. Finally, five risks were identified for immediate action, 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 2024.

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.
- Identify risks based on the external environment and the company's operational needs and evaluate the probability and impact of risks and mark the impact on the company with a matrix.

Q4 | Review and improvement

- 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 process and results of risk management in the current year to ensure the effectiveness of risk management.

Risk management process

Q2 | Risk priority and response

- Risk Priority
 - Based on the risk assessment results, risks are classified as Level 1 (high), Level 2 (moderate), and Level 3 (low) risks.
 - **2** Based on company operation, 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 and response to "risks that require immediate action"

Evaluate "priority risks," identify risks requiring immediate action, and review the effectiveness of management and response measures.

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2023 Priority Risks and Countermeasures

★ Risks with red asterisks are for immediate action

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No.	TSRC Risk Categories	Risk contents	Response measures	Management goals or targets	Implementation results	
1	Strategy risks Oversupply of BR products in the market		 Adopt flexible product mix adjustment strategy Focus on target markets and monitor market dynamics 	• Annual sales volume budget	• Utilize sales strategy and product mix to exceed budgeted sales revenue	
2	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 	• Achievement of management objectives by planning and controlling the ratio of net interest expense	
3	Business risks	★ Uncertainty of energy price increase in Taiwan	 Synthetic Rubber Business Implement production and marketing programs and cost control Implement pricing strategies to minimize financial impact Advanced Materials Business Reduce process unit energy consumption Implement pricing strategies to minimize financial impact 	 Synthetic Rubber Business Annual budgeted profit Advanced Materials Business Steam consumption reduction target Develop new process technologies to reduce unit energy consumption 	 Synthetic Rubber Business Achieve annual budgeted profit through production and sales planning and pricing strategies Advanced Materials Business Achieve initial reduction targets Continuously promote the development of new process technologies 	
4	Regional risks and	★ Uncertainty of downgrading of Dashe Factory	• Continued communication with the competent authorities together with local manufacturers	 Advocated for downgrading to grade A industrial area 	• Regularly discussed with members of factory associations and petrochemical associations on countermeasures and action plans	
	industry risks	★ Impact of U.S. tariff policy changes on SBC products	 Continuous optimization of production efficiency and cost reduction in U.S. factories Develop new products and applications with high added value 	 Estimated annual production volume of SIS and SBS in the U.S. factories Obtain new product approvals from target customers 	 Continued to stabilize production and reduce unit costs New products have been tested by international customers and are in the process of certification 	

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2023 Priority Risks and Countermeasures

★ Risks with red asterisks are for immediate action

No.	TSRC Risk Categories	Risk contents	Response measures	Management goals or targets	Implementation results		
5	ESG-related risks	★ Uncertainty of carbon fee price in Taiwan	 Implement reduction measures to minimize carbon emissions from manufacturing processes Develop new technologies to reduce greenhouse gas emissions Expand and develop ESG-related business opportunities 	 Group-wide GHG reduction target R&D of new low-carbon technologies Develop products to meet customers' ESG needs 	 Achieve annual carbon reduction targets Continue to develop new low-carbon technology applications Collaborate with customers to research and develop recycled materials and product applications 		
		★ Increase the proportion of greenhouse gas reduction in line with national policies	• Continue to develop carbon reduction technologies and process improvement solutions	 Group-wide GHG reduction target Group's renewable energy use target 	 Achieved management targets for GHG reduction Completed the installation of solar panels at the Kaohsiung Dashe Factory 		
6	R&D and intellectual property rights management risks	Leakage of R&D confidential information	 Enhance new employee training and confidentiality awareness Strengthen IT monitoring and database management 	 Implement IP-related training for R&D employees and regularly promote confidentiality and security Regularly review database access rights 	 Perform internal staff training and regular confidentiality counseling Review access rights and continuously enforce confidential information management 		
7	IT technology	Hackers invading the company's information systems	 Continuously update system firewalls, protection software, and Security Operation Center (SOC) monitoring Regular backup and carry out data recovery drills 	 Zero information security incidents 100% success rate of data recovery drills 	 No information security incidents and continuous monitoring and protection Annual data recovery drill for critical hosts with 100% recovery success rate 		

To promote the risk culture, TSRC has placed great emphasis on factory safety over the years. In order to prevent incidents, TSRC encourages factories to report false alarms, unsafe behaviors, and conditions, so that risks can be eliminated before an incident occurs. In terms of policy-related regional risks, TSRC works with local manufacturers to continuously communicate with authorities. The effectiveness of communication is tracked through regular discussions with members of factory associations and petrochemical associations on countermeasures and action plans. Regarding ESG risks related to policies, although Taiwan's carbon fee regulations and the rate have not yet been announced, TSRC Kaohsiung Factory has been actively implementing measures to reduce carbon emissions from manufacturing processes, developing energy-saving and carbon reduction technologies, and expanding ESG-related business opportunities. In response to the impact of U.S. tariffs and changes in the European Carbon Border Adjustment Mechanism (CBAM) policy on SBC products, TSRC will continue to optimize production efficiency and reduce costs in its China Nantong and U.S. factories, as well as develop new products or applications with higher value-added and lower carbon footprints.

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Cyber Security

TSRC actively protects the security of the company's important information assets and has established the "Cyber Security Policy and Management". The head of the IT Department of the Finance Division also serves as the head of the Cyber Security Unit, which consists of a cyber security supervisor and several professional IT staffs who are responsible for planning the internal information security policy and planning and implementing information security operations, and conducting monitoring outsourcing service reporting meeting with SOC manufactures every quarter and regular internal information projects and information security internal control meetings. The Company's cyber security status is reported to the Board every year. For more information, please refer to TSRC website for details on the implementation in 2023

Information Security Organization Structure **IT Supervisor Cyber Security Manager Global Region Principal Engineer** Senior Engineer Senior Engineer China, TSM, VN

In recent years, hacker 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 information security every year.

Cyber Security Management Measures

Strengthening awareness of email security

In 2023, TSRC cooperated with external cyber security consultants to conduct social engineering exercises, 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 causing cyber security risks. In 2023, we strengthened cyber security through guarterly email reminders and recent cyber security incidents, thereby continuously improving employees' awareness of cyber security.

Penetration testing service

TSRC uses penetration testing services to simulate hacker (malicious user) attacks with the goal of identifying possible hacking channels and fixing vulnerabilities that could lead to intrusion in order to improve the security strength of the company's external systems and reduce cyber security risks. 100% of the high-risk items in this year's penetration testing have been fixed.

Strengthening cyber security

In 2023, TSRC received a total of 226 counts of information from the TWCERT/CC on cyber security and multinational information exchange. TSRC has strengthened its cyber security by referring to the information received and matching it with its own information environment.

Information Security Management Performance Indicators



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Open rate of simulated phishing letters was less than 10%

TSRC regularly conducts social engineering drills every year. In 2023, TSRC conducted testing via simulated phishing emails, and the average open ratio of the number of phishing emails opened and attachments in phishing emails opened by employees was 8.15%. It is expected that the opening ratio will be maintained at less than 10%, which demonstrates that the drills and education and training have achieved the expected results of protection.

By installing endpoint protection software, the successful blocking rate of threat incidents is 100%

100% of TSRC user endpoint devices are protected with endpoint protection software. In 2023, a total of 101 suspicious threat events were successfully blocked and the risk of attack was eliminated.

Reducing cyber security risks by implementing new protection systems

In 2023, TSRC introduced a new generation of spam protection system. The new system provides multi-layer defense against email threats, effectively targeting diversified forms of attacks such as malware, phishing, virus, imposter, BEC, etc., to enhance email protection and reduce cyber security risks.

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4.1.3 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 businesses (synthetic rubber and advanced materials) have different product types, in order to provide customized services, TSRC implements global and local customer relationship management strategies to ensure that both businesses provide the highest quality and prompt service to customers.

Global Customer Relationship Management of Two Business Lines



In the spirit of providing customer-oriented services, TSRC has established standard procedures to properly handle customer complaints and refunds. The Quality Assurance Department of each factory serves as the contact window for customer complaints and specific needs. The Department is responsible for ensuring that product quality and delivery issues can be resolved in a timely manner. If the quality specification does not meet customer requirements, TSRC's knowledge management system will support to provide professional solutions and analyze the root cause of the problem for subsequent improvement.

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Improve Customer Satisfaction

TSRC's core mission is being an important partner to our customers. We obtain customer feedback through various channels, such as customer meetings and annual satisfaction surveys. Each year, we conduct global customer satisfaction surveys. The survey asks customers' satisfaction about 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, the questions of the survey are adjusted to reflect the characteristics between regions and customers. A total of 161 customer opinions were collected in the 2023 Customer Satisfaction Survey. The overall satisfaction rate was over 94%.

Customer Satisfaction













100.0% 100.0%



Note:

- 1. TSRC (Vietnam) Company Limited was officially operated in 2021, thus the customer satisfaction has been held since 2022.
- 2. The two trading subsidiaries (Polybus Corporation Pte Ltd, TSRC (Lux.) Corporation S.à.r.l) within the reporting scope do not have any production activities or customers and are therefore not included in this table.

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4.1.4 Ethical Corporate Management

TSRC values integrity and ethics, and the Board of Directors has formulated the "<u>Code of</u> <u>Business Conduct</u>" and the "<u>Code of Ethics</u>", which refer to 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, 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.

The relevant regulations stipulate that TSRC's employees should take the initiative to detect and prevent unethical behavior in the conduct of business, and ensure the ethical management policy through the operation of the organization and the implementation of the supervision management system. Before establishing a business relationship with others, it should first assess whether the business partner has a record of unethical behavior and understand its past performance status and reputation as an indicator of whether to establish a business relationship.

TSRC upholds the rights and interests of our employees and develops TSRC's "Employee Rights Protection Policy" with reference to the international human rights conventions and standards such as the United Nations Universal Declaration of Human Rights, the United Nations Global Compact (UNGC), and the International Labor Office Tripartite Declaration of Principles. For more information on TSRC's human rights measurements, please refer to <u>3.2.3 Human Rights</u>

and Labor-Management Communication

With respect to 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, the TSRC Human Resources Department has established the "Procedures for Official Gifts and Hospitality" to regulate the conduct of employees. In addition, TSRC has specified the levels of corporate donations in its hierarchical management practices to avoid inappropriate charitable donations or sponsorships.

TSRC has established an internal and external whistleblowing channel to effectively complement the "Code of Business Conduct" and the "Code of Ethics". If an employee has any doubts or needs advice regarding unethical behavior, he/she can use the internal employee mailbox for internal complaints. Meanwhile, anyone (including employees) who is aware of any illegal, dishonest, or unethical behavior can report it through the official website or by mail. If the case involves the Board member or the CEO, the report will be received and conducted by the Chairman and the Audit Committee. If the case involves other employees, the CEO will appoint employees without conflicts of interest to form a task force to conduct the investigation. Cases should be accepted on a real name basis, the identity of the whistleblower should be kept confidential, and no one should threaten, intimidate or retaliate against the whistleblower. Anonymous reports may be accepted if the content of the report and the evidence are clear. No cases were reported in 2023.

In terms of business ethics, the "Code of Business Conduct" clearly regulates agents, distributors and suppliers. These companies must agree to abide by TSRC's ethical business principles and to protect TSRC's intellectual property and trade secrets. When signing contracts with suppliers, TSRC also includes compliance with the Code of Business Conduct in audits and evaluations to serve as a reference for future supplier selection. In 2023, 975 target suppliers were required to sign the "TSRC Group Supplier's Declaration of Compliance with Corporate Sustainability," and as of December 31, a total of 846 had signed back. Conflict of interest questionnaires and confirmations were also completed, and a total of 488 people responded and confirmed. In terms of products and services, TSRC also clearly requires that the products or services should not cause direct/indirect harm to stakeholders.

TSRC regularly conducts training and promotional activities for employees and business partners on the Company's ethical business conduct policy, measures to prevent unethical behavior, and the consequences of violations. TSRC has incorporated the implementation of ethical business conduct into the performance evaluation system of each department. In 2023, 5 training programs were held with a total of 731 participants. For more information on the implementation of ethical management courses and training in 2023, please refer to the <u>TSRC</u> website.

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Chapter 4

Governance

TSRC Ethical Policy

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TSRC complies with domestic and foreign laws and regulations in related areas, including 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 imposing less than 4 fines per year for environmental, health, and safety (EHS) violations, in the hope of reducing the impact on governance, the environment, and society.

Compliance Enforcement and Tracking



- Continuously strengthen environmental management at each plant to comply with various environmental regulations, including air pollution, wastewater discharge, and waste disposal.
- Continuously improve employee care and protection to meet local regulations
- Actions
- Take immediate action to remediate negative environmental and social impacts caused by non-compliance.



Regular Tracking

- The head of Legal Department and the head of Operational Division respectively report to the Executive Leadership Team from time to time on the implementation of their compliance with laws and regulations of the company and its subsidiaries.
- The head of Legal Department reports annually to the Board of Directors on the implementation of ethical corporate management.
- In terms of EHS management, when non-compliance fines or violation tickets are discovered, the reporting, investigation, and development of preventive measures in the TSRC Incident Notification System are enforced in accordance with the EHS Incident Reporting and Investigation Procedure, and incorporated into operational measures and planning, tracking, and improvement.

In terms of operation management, all employees of TSRC must adhere to the Code of Ethics and uphold the Code of Business Conduct, and comply with norms and relevant laws and regulations. In 2023, there were no 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. In 2023, TSRC took the initiative to investigate suspected conflicts of interest, and ultimately terminated the employment relationship to avoid illegal situations in advance.

TSRC had no major violations in 2023. There were two environmental fines for violation of Article 23 of the Air Pollution Control Act, with fines of NT\$645,000. For enhanced management measures against air pollution violations, see 2.5.1 Air Pollution Prevention and Management. Please refer to the Appendix for the definition of major violations, violations and fines in the previous year.

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 employees develop new technologies and apply for patents with the incentives from the Company's rewards for innovation and continuality improvement. The TSRC global customer relationship management platform and global R&D centers located in Asia and the United States play a vital role to ensure our innovation meet the market needs.

4.2.1 Innovation Capabilities

TSRC has a total of 168 staff delegated for the planning and developing new products and processes, as well as managing relevant technical know-how. These R&D experts accompany with colleagues from the Sales and Quality Assurance Departments to meetings with customers and discuss product application trends; thus, they receive the first-hand information from customers and integrate it in product development.

TSRC Innovation Management Strategy

Incentives for Innovation

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

Green R&D

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



Information exchange

The TSRC global customer relationship management platform and global R&D centers located in Asia and the United States play a vital role to ensure our innovation meet the market needs.

Analyze requirements

TSRC engages with customers to thoroughly understand the processing procedure in order to make our products easier to process, help customers reducing the procedures and avoid extra energy and resources and greenhouse gas emissions.

Global R&D Center

The TSRC R&D Center located in Texas, USA, was launched in 2021. It is the second global R&D center of TSRC and the first one outside Asia. The R&D Center is co-located with office of TSRC Specialty Materials LLC. It is TSRC's second multi-functional 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 total environmentally friendly solutions.

The R&D Center in the U.S. focuses on SBC product development and provide cost-effective solutions by engaging with different functional units including sales, production, quality assurance, product safety and regulation. The Center integrates process technology development, terminal applications, and technical services for customers in the innovation and development. It leverages TSRC's global sales network and technical capabilities to develop medical-grade materials, hygiene products, adhesives, films, asphalt modification, and elastic nonwovens. To continue promoting innovative product development, the TSRC's management team regularly reviews new product sales. In 2023, new product sales of synthetic rubbers and advanced materials accounted for 16% of total revenue.

Chapter 4

2023 TSRC R&D Center in the U.S.



SIS production line

Chapter 1

Completed a project to improve the anti-adhesion packaging of the SIS production line, and conducted a comprehensive product upgrade of all commercialized SIS grades to eliminate the use of traditional harmful talcum powder. This makes TSRC's products safer for use in hygiene-related businesses and gives consumers greater peace of mind when using them.

SBS production line

Completed the introduction of carbon dioxide neutralization technology to all SBS production lines, significantly reducing the long-term fouling problem of SBS production lines in extrusion dehydrators. Financial savings of over NT\$62,315,000^{Note} (US\$2,000,000).

Incentives of Innovation

To accelerate change and innovation, TSRC has established various innovation awards, including 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 and new production processes. In 2023, 22 Outstanding Teams of the Year were recognized, and incentives totaling NT\$550,000 were distributed in Taiwan. In the Shanghai and Nantong regions, a total of NT\$395,703^{Note} (RMB 90,000) was distributed, and in the U.S. region, a total of NT\$102,820^{Note} (US\$3,300) was distributed. 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 2023, 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 guality and process improvements. A total of 2,154 projects, totaling approximately NT\$428,084, were awarded in 2023.

Note: Average exchange rate in 2023 was 4.3967:1 for TWD against RMB; and 31.1575:1 for TWD against USD.

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Innovation Contribution Award (Outstanding Teams of the Year)

Promote innovative ways to develop new products or processes, optimize production, and propose new key projects

1. "Customization and Automation of Business Analytics"

• Create digital business reports, integrating complex information and reducing time-consuming calculations, identifying directions and clues to improve profitability, and improving the quality and efficiency of management decisions.

2. "Creating a New Trend of ESG Low-Carbon Transformation".

• On the journey to ESG low-carbon transformation, in the face of many challenges, we are working closely together, making breakthroughs, enhancing the company's operational resilience, exerting organizational influence, and allowing ESG to continue to flourish in TSRC.

3. "TPE Process Optimization"

- Optimize the consumption of key raw materials.
- Significantly increase daily production capacity of target grades.
- Develop specific process waste gas treatment systems to achieve both cost and ESG goals.

4. "Stable Water Supply to Factory during Water Restriction Periods"

• When the water condition is bad, we utilize the pipelines for other purposes and optimize the operation, so that the Kaohsiung Factory can continue to provide stable water supply, and serve as the back-up and partner for the front-line production.

5. "New Generation Synthetic Rubber Process Development and Procedure Optimization"

- Single solvent system to reduce the limitation of new product development.
- Improve mixing efficiency, increase production capacity and process stability, and reduce energy consumption per ton.
- Develop green tires and low rolling resistance electric tires
- Develop glossy high impact polystyrene (HIPS).



Continual Improvement Award

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About TSRC

Foster a culture of continual improvement and enhance problem solving abilities

- 1. "Continuous Learning and Utilization of New Technologies and Methods to Improve Predictive Maintenance and Water Application Standards"
- Enhance the reliability of critical equipment and reduce the cost of abnormal maintenance losses by more than NT\$1,319,010 (RMB300,000).
- Established a comprehensive equipment predictive maintenance system, saving NT\$879,340 (RMB200,000) in general expenses.
- 2 "Increased Daily Output of New-Generation Rubber Products and Improved Production Costs"
- Increased daily output of qualified products by 20% and increased production capacity.





Error Cause Removal Award

Encourage the use of logical and statistical analysis to improve product quality and processes

1. "Activated Carbon Tank Operation Optimization"

• Activate carbon tank operation to improve activated carbon adsorption efficiency and reduce steam energy consumption.

2. "Optimization of Briquetting Press Operation Procedures"

• Optimize briquetting press operation procedure and manual control protection design to improve chute/cover collision abnormality.



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7 TSRC's Participation in Domestic and International Exchanges of Innovative Technologies

	SpecialChem	Munich Adhesives and Finishing Symposium (MKVS), ASC Annual Convention & EXPO	CHINAPLAS 2023	INDEX	Sustainable Low Carbon Nonwoven Industry Alliance Green Seminar	FOAM EXPO in Shanghai and INTERFOAM in Vietnam
Content of Event	Participated in interviews to introduce the innovative features and advantages of SIS new products and TSRC's production base in the U.S.	Presentation on "New Styrenic Block Copolymers for Hot Melt Label Adhesives"	Organized 2 technical conferences and 5 seminars	Utilized the visual design of invitations, images, presentations and brochures, and carefully designed the packaging of elastic film samples to create a cohesive brand experience	With the theme "Homogeneous Recyclable Elastic Leather", showcased recycled and eco-friendly material technology	Demonstration of foam molding technology
Technology Demonstration	New SIS products for sustainable labeling applications	SIS meets stringent requirements for pressure sensitive adhesives (PSA) and innovations in adhesives	VECTOR [®] SEBS solutions and VECTOR [®] SIS for medical wrapping and medical device applications	Elastomer films and hygiene adhesives for products with stringent requirements such as absorbent hygiene products (AHP)	SEBS single-material leather products break through the traditional industry's problems of lengthy manufacturing processes, complex materials, high energy consumption and use of solvents	The potential of SBC in foam molding technology and footwear, and shared the results of developing environmentally friendly advanced materials for supercritical fluid foaming (SCF)
Outstanding Achievements	 Attracted the attention of over 41,659 adhesive professionals 402 people showed interest in the new SIS technology TSRC successfully developed 150 potential customers 	• Attracted the attention of adhesive professionals	 Shared TPE technology with downstream applications In-depth communication with industry on key business challenges 	• Conducted more than 4 exchanges with customers to explore business opportunities	 Attracted the attention and discussion of industry professionals and scholars at the event 	• Exchanged with footwear industry experts on industry and products
	<image/> <image/> <image/> <image/> <section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><text></text></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header>			TSRC UECOS		VICE TALE INTERFOAM VICETNAM 6xg2.54.0025 VICENCA Copolymers (SBC) in the latest footwarm and bring technology and the latest footwarm material applications

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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 4 patents in 2023 were granted by a single country, and the TSRC developers has received patent rewards. In 2023, TSRC was granted 20 patents. As of the end of 2023, TSRC has applied for a total of 543 patents worldwide and 449 patents have been granted.

TSRC regularly conducts patent training programs to enhance employees' knowledge and skills and establishes a trade secret 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 <u>TSRC website</u>.



4.2.2 Innovative Products and Technologies

Synthetic Rubber Products

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

New-generation synthetic rubber

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.

The 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. Based on the sales volume in 2023, TSRC's green tires made of next-generation synthetic rubber contribute to reduce CO2 emissions from vehicle travel by 202,678 tons.



Patents and R&D Expenses over the Years



BR optimization

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



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Advanced Materials

TSRC's advanced materials include thermoplastic elastomers and other materials for customized applications. The main applications of thermoplastic elastomers are adhesives, elastic films, IV bags/films, and medical tubing; and other materials are mainly used for footwear. TSRC's products are non-toxic and recyclable and can replace materials that are hazardous to the environment and human health, simplifying the production process of downstream products and improving production efficiency and performance.

High value SBC product development	Non-crosslinked SCF technology	Medical-grade SEBS
• 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 in the market.	 The products developed with SCF technology are recyclable, which is different from conventional cross-linked PU and EVA shoe sole materials. Certification by international brands is in progress. According to TSRC's estimation, the carbon footprint of TSRC SEBS foam material is 5.016 kg CO2e per ton, which is lower than 7-8 kg CO2e per ton of 	• TSRC has completed the development of medical grade SEBS material. The SEBS material is transparent and contains no plasticizer. Some international customers have completed the testing and certified the product with medical grade quality. These products have been officially launched in the market.
Product Applications Diapers, masks, and hygiene & care products	commercially available TPU material and 11-12 kg CO2e per ton of TPEE material.	Product Applications IV bag/film and medical tubing
	Product Applications Footwear	

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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 "<u>TSRC Group</u> <u>Supplier Code of Conduct</u>" and the "<u>Code of Business Conduct</u>" to comply with business ethics. Suppliers are requested to provide high-quality products and reducing the risk of business interruption, not at the expense of human rights and labor rights, safe working environment, and environmental impact. TSRC closely engages with suppliers by reviewing and evaluating their operational status to manage the 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 by year through 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 learns about the implementation of the plan at the quarterly ESG meetings, and makes recommendations on the results of the implementation. 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.

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 for the long-term profits and sustainable operations of TSRC and our partners.

TSRC Group Supplier Code of Conduct

Joint Commitment to Social Responsibility

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

Compliance with the Law and Regulations

We expect that our partners to comply with TSRC's Partner Code of Conduct (PCC), including 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.

To effectively implement supply chain management, TSRC classifies Tier-1 suppliers into raw material suppliers, packaging suppliers, contractors, and general suppliers. Upstream raw material suppliers are TSRC's primary value chain partners. TSRC relies on petrochemical raw materials purchased from suppliers for polymerization. Upon completion of the synthesis, the raw materials are manufactured into chemical materials and rubber material products, which are sold to downstream customers (including tire manufacturers and medical product manufacturers), and then downstream customers use the materials to produce the end-use product. For raw material suppliers, we conduct audits according to our annual audit plan to ensure the suppliers' 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 are those provide labor services (including cleaning, security, cafeteria, and administrative services) and equipment, construction, civil engineering, and warehousing and logistics. General suppliers are those other than the above three categories. TSRC conducts annual performance evaluations of contractors and general suppliers to ensure the quality and delivery.

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Supplier Sustainability Risk Control and Management

Based on the Responsible Business Alliance (RBA) Code of Conduct, TSRC follows the International Labor Organization (ILO) Convention and the United Nations Convention on the Rights of the Child (UNCRC) to develop the "TSRC Group Supplier Code of Conduct". This code regulates suppliers' ethical management, human rights and labor policies, occupational safety and health, and environmental protection. TSRC requires suppliers to comply with the requirements, and the supplier's compliance status influences TSRC's procurement decisions. Suppliers can file complaints or report concerns via the whistleblower mailbox on TSRC's website.

TSRC requires suppliers to sign the "TSRC Group Supplier Code of Conduct", and requires existing suppliers to re-sign when the Code is updated. Suppliers are required to respond to the "Sustainability Assessment Form" to self-evaluate their compliance with key issues such as business integrity, human rights, environmental protection, and occupational safety and health, while the Operations and Supply Department is responsible for assessing suppliers' sustainability risks. Each year, suppliers are selected for annual written and on-site evaluations, and follow-ups are conducted based on the audit results. We also report the evaluation results to the relevant department heads for follow-up. TSRC provides ESG training on sustainable supply chain management for employees in charge of procurement to ensure that they have the basic knowledge of sustainability to fulfill TSRC's commitment to sustainable supply chain management in daily operations.

Sustainable Supply Chain Management Process



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Supplier Evaluation System

Supplier Evaluation Method

TSRC values suppliers that provide stable quality products and services. We also monitor their performance in area of labor human rights, occupational safety and health, environmental impact, Code of Ethics, and social impact. Each year, following the "General Contractor Evaluation Management Regulations," we select suppliers through procurement after excluding low-risk bulk chemicals (such as BD, SM, KOH, NAOH, etc.), general commercially available chemicals (such as KCL, H₂SO₄, NaNO₂, 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 the standards. In addition, conduct interviews with suppliers from time to time to understand suppliers' ESG risk management measures and adjust the supplier audit evaluation 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, written audits may be conducted. For suppliers in Europe and America, a written audit may be conducted due to considerations of labor and transportation costs and the distance making on-site audits inconvenient. The rating scores of suppliers evaluated are classified into 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 time period. If the improvement is not made within the specified period, it 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 public safety regulations affecting the Company's production, quality, and HSF quality, the qualified suppliers must review and improve the quality of their products, or else their supply will be suspended.

In 2023, TSRC assessed 152 suppliers, 50 of which were assessed on-site and the remainder through a paper-based assessment. The 2023 supplier assessment includes sustainability issues. 33 suppliers were rated as Grade A suppliers, representing 33.0% of all suppliers assessed.

Unit: Number of Stores, Percentage • On-site • Paper-based 2021 38 (59.4%) 26 (40.6%) Total: 64 (100%) 2022 40 (64.5%) 22 (35.5%) Total: 62 (100%) 2023 50 (32.9%) 102 (67.1%) Total: 152 (100%)

Note: This table covers 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 covers TSRC Corporation and its six operating subsidiaries, excluding the two trading subsidiaries (Polybus Corporation Pte Ltd, TSRC (Lux.) Corporation S.à.r.l).
- 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 denotes a qualified supplier, the supplier is requested to respond with the improvement actions for major deficiencies. Grade C denotes a conditionally qualified supplier, the supplier must submit improvement results and meet Grade C requirements within the timeframe. Becomes an unqualified supplier if improvements are not completed on time. Grade E is an unacceptable supplier and is considered as an unqualified supplier.

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Collaborate for Reducing GHG Emissions

TSRC has developed an ESG strategy plan in 2021 with the vision of carbon neutrality. Supply chains are key partners for TSRC's carbon reduction journey, and TSRC is committed to promoting GHG emission reduction among suppliers to increase operational resilience. TSRC requires the top 20 suppliers to commit to greenhouse gas reduction targets, develop solutions to improve energy efficiency, and minimize energy consumption and greenhouse gas emissions. According to the published sustainability report, the major raw material suppliers have set short- and medium-term GHG reduction targets and are working toward the long-term goal of achieving net zero. In 2023, TSRC has confirmed that the top 20 suppliers, according to the annual procurement amount, already have specific carbon reduction targets and plans. They will mainly adopt programs to continuously improve energy efficiency, improve manufacturing processes, increase energy-saving machinery and equipment, increase the use of renewable energy, and research and develop carbon capture. TSRC will track suppliers' carbon reduction targets through the "Top 50 Suppliers' Sustainability Assessment" to better understand suppliers' carbon reduction-related activities in order to effectively understand the actual status of carbon reduction.

4.3.2 Green and Local Procurement

TSRC pursuits the positive impact on the environment. When purchasing equipment or devices, we consider not only the functions of goods but also the impact on the environment. We implement green procurement practices, giving priority to purchasing products with environmental protection and energy labels, and implementing to the concept of circular economy through the "rent-instead-of-buy" approach.

In 2023, the green procurement of TSRC Corporation amounted to NT\$130,199,685. This included replacing synthetic rubber outer packaging with rented metal boxes instead of disposable packaging such as wooden boxes, wooden pallets, or cardboard boxes. Metal crates 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 subsidiary, Nantong Industries, has implemented green procurement with totaling NT\$1,500,594^{Note}(RMB 341,300), which was mainly used to purchase energy-saving refrigerators, lamps, copiers, and inverters.

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 TSRC management team quarterly. 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, and also reduce air pollution and greenhouse gas emissions from tank cars. The Group's domestic local procurement accounted for approximately 78.4% of the total procurement in 2023.

Note:

Note: Average exchange rate in 2023 was 4.3967:1 for TWD against RMB.

Local Procurement Ratio of the TSRC Group





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1. This table is calculated based on the procurement amount.

- 2. "Local procurement" in this table refers to procurement in the country of the business location.
- 3. This table covers TSRC Corporation and its six operating subsidiaries, excluding the two trading subsidiaries (Polybus Corporation Pte Ltd, TSRC (Lux.) Corporation S.à.r.l).

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Participation of 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.

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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.

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Comparison of Changes in Material Topics to the Previous Year

	2022		2023		Differences
	Esg Issues	Material Topics	Esg Issues	Material Topics	Differences
	Sustainable innovation	×	Sustainable innovation	9	Considering that this issue is of primary concern to external stakeholders (customers) and that sustainable innovation is an important part of TSRC's value creation, it is included as a material topic.
	Business strategies and performance	0	Business strategies and performance	?	No differences
Governance	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	2	Compliance		No differences
	Risk management	0	Risk management	e	No differences
	Customer relations	×	Customer relations	×	No differences
	Sustainable supply chain management	۲	Sustainable supply chain management	0	Considering that carbon reduction in the supply chain is an important issue of concern for the industry and sustainability evaluation, and that TSRC has included carbon reduction in the supply chain in its strategic blueprint, it has been included as a material topic.
	Climate strategy and Greenhouse gas emissions	O	Climate strategy and Greenhouse gas emissions		No differences
	Energy Management	O	Energy Management	O	No differences
G	Product accountability	×	Product stewardship and chemical management	×	No differences
	Circular economy	×	Circular economy	×	No differences
Environmental	Water Resources Management	0	Water Resources Management	0	No differences
	Waste and hazard substances management	0	Waste and hazard substances management	0	No differences
	Ecological impact of operations	×	Nature and biodiversity	×	No differences

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	2022	2022			Differences		
	Esg Issues	Material Topics	Esg Issues	Material Topics	Differences		
	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)	\bigotimes	No differences		
	Talent attraction and retention	۲	Talent development	0	Considering that talent development is an important issue of cond for the industry and sustainability assessment, and that talent is a core element in the promotion of innovation and the implementat of ESG management at TSRC, it has been included as a material topic.		
	Occupation health and safety	O	Occupation health and safety	O	No differences		
	Employment and human rights	×	Employment and human rights	×	No differences		
	Communication with communities	×	Community participation	×	No differences		

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1. 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.

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Remediation and Management of Negative Impacts

ESG Topics	Potential or actual adverse impacts on the economy, the environment and people (including their human rights)	Grievance mechanism	How stakeholders are involved in the design of the grievance mechanism	Number of complaints in 2023	Remedial measures for complaint cases
Compliance	Negative Impact - Violation of laws and regulations Economy If TSRC violates laws and regulations related to corporate governance, and ethical integrity and other governance-related failures that result in the company being fined by the relevant authorities, the overall economic development and efficiency will be reduced. Environmental If TSRC violates environmental laws and regulations, causing pollution or other negative effects and disrupts 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, customers and suppliers will be harmed.	 ESG mailbox in English and Chinese on the company website Whistleblower mailbox in English and Chinese on the company website Sustainable development section's contact window on the company website TSRC spokesperson mailbox Employee feedback mailbox Contractors communication meeting 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.	1 case	 Former employee filed a lawsuit in court against the company's supervisor for illegal infringement at the workplace. The Labor Inspection Office of the Kaohsiung City Government Labor Bureau followed the regulations to visit the factory site to investigate the process of illegal infringement at the factory and to prepare a plan. In accordance with the suggestions of the competent authority, the Company updated the relevant regulations and added new preventive measures, and the case has been closed.
Risk management	Negative Impact - Mismanagement of risk Economy If TSRC doesn't properly manage its 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.	 ESG mailbox in English and Chinese on the company website TSRC Shareholders' Service center contact window on the company website TSRC spokesperson mailbox shareholders meeting Employee feedback mailbox 	Stakeholders can express their opinions or make suggestions at the shareholders' meeting through the Shareholders Service Contact Window.	0 cases	 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. The Company will follow up on the status of improvements to the issues that need to be addressed.

ntents Abo R	out the Letter from Awards and ESG Stories eport the CEO Recognitions	ESG Strategy Company Information	Chapter 1 Chapter 2 About TSRC Environmenta	Chapter 3 I Social	Chapter 4 Appendix Governance
ESG Topics	Potential or actual adverse impacts on the economy, the environment and people (including their human rights)	Grievance mechanism	How stakeholders are involved in the design of the grievance mechanism	Number of complaints in 2023	Remedial measures for complaint cases
Sustainable supply chain management		 ESG mailbox in English and Chinese on the company website Whistleblower mailbox in English and Chinese on the company website Sustainable development section's contact window on the company website TSRC spokesperson mailbox 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	 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. The Company will follow up on the status of improvement of the issues that need to be improved.
CO2 limate strategy nd Greenhouse gas emissions	Negative Impact - Greenhouse gas emissions Economy TSRC's operations and suppliers emit greenhouse gases that cause climate change and related climate disasters, resulting in overall economic losses. Environmental 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 impact the environment, ecology and biodiversity.	 ESG mailbox in English and Chinese on the company website Whistleblower mailbox in English and Chinese on the company website Sustainable development section's contact window on the company website TSRC spokesperson mailbox Shareholders meeting 	Stakeholders can communicate and express their views through the ESG mailbox and the sustainable development section contact window on the website.	0 cases	 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. The Company will follow up on the status of improvements to the issues that need to be addressed.

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ESG Topics	Potential or actual adverse impacts on the economy, the environment and people (including their human rights)	Grievance mechanism	How stakeholders are involved in the design of the grievance mechanism	Number of complaints in 2023	Remedial measures for complaint cases
Energy Management	Negative Impact - Use of fossil fuels Environmental 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 Environmental If SRC consumes a significant amount of energy, if may have a crowding-out effect on energy resources in the area of operation, resulting in the competent authorities to expand 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 SRC consumes a substantial amount of energy, it may cause crowding-out effects on the allocation of energy resources and communities. It may have adverse effects on the environment, ecosystem and wildlife habitats.	 ESG mailbox in English and Chinese on the company website Sustainable development section's contact window on the company website 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	 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. The Company will follow up on the status of improvements to the issues that need to be addressed.
Water Resources Management	Negative Impact - High water consumption Environmental If TSRC has a high consumption on tap water, it may lead to crowding-out effects on water resource in the area of operation, resulting the competent authorities expanding the construction of reservoirs or the water storage facilities to meet the water consumption of industries and local communities. The construction may cause adverse impact on the environment, ecosystem, and wildlife habitats. Society/People If TSRC has a high consumption on tap water, it may lead to crowding-out effects on the distribution of water resources, which may harm the rights and interests of	 ESG mailbox in English and Chinese on the company website Sustainable development section's contact window on the company website 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	 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. The Company will follow up on the status of improvements to the issues that need to be addressed.
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ESG Topics	Potential or actual adverse impacts on the economy, the environment and people (including their human rights)	Grievance mechanism	How stakeholders are involved in the design of the grievance mechanism	Number of complaints in 2023	Remedial measures for complaint cases
Water Resources Management	Negative Impact - Improper treatment of wastewater Environmental 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.	 ESG mailbox in English and Chinese on the company website Sustainable development section's contact window on the company website 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	 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. The Company will follow up on the status of improvements to the issues that need to be addressed.
Product stewardship and chemical management	Negative Impact - Improper chemical safety management and labeling Environmental If TSRC failed to manage chemical safety during the product life cycle, it may result 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.	 ESG mailbox in English and Chinese on the company website Sustainable development section's contact window on the company website TSRC spokesperson mailbox 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	 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. The Company will follow up on the status of improvements to the issues that need to be addressed.

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ESG Topics	Potential or actual adverse impacts on the economy, the environment and people (including their human rights)	Grievance mechanism	How stakeholders are involved in the design of the grievance mechanism	Number of complaints in 2023	Remedial measures for complaint cases
Waste and hazard substances management	Negative Impact - Improper waste disposal Environmental 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. Negative Impact - Toxic chemical spills Evironmental 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 are directly exposed to the toxic substances, resulting in physiological disorders or chronic poisoning through biomagnification and long-term accumulation in the human body.	 ESG mailbox in English and Chinese on the company website Sustainable development section's contact window on the company website TSRC spokesperson mailbox Environmental Protection Bureau, Kaohsiung City Government Industrial Park Service Center 	Stakeholders can communicate and express their views through the ESG mailbox and the sustainable development section contact window on the website.	6 cases	 In 2023, when the Kaohsiung factory received complaints or reports from the public to the Environmental Protection Bureau or the Industrial Park Service Center about chemical leakage or odor, the Company immediately cooperated with them to check and handle the situation and obtained confirmation from the Environmental Protection Bureau that there was no leakage or odor. We will install additional improvement equipment and track the improvement status of the items that need to be improved.

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ESG Topics	Potential or actual adverse impacts on the economy, the environment and people (including their human rights)	Grievance mechanism	How stakeholders are involved in the design of the grievance mechanism	Number of complaints in 2023	Remedial measures for complaint cases
Biodiversity and natural environment	Negative Impact - Destruction of habitat and biodiversity Environmental The operation of the existing TSRC's factories and the development of the 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, and affecting biodiversity and natural environment. Society/People The operation of the existing TSRC's factories and the development of the new factories may destroy ecological habitats and affects the ecosystem's ability to provide sufficient resources for human society, affecting the entire population	 ESG mailbox in English and Chinese on the company website Sustainable development section's contact window on the company website 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	 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. The Company will follow up on the status of improvements to the issues that need to be addressed.
Occupation health and safety	Negative Impact - Occupational 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.	 Employee feedback mailbox Occupational Safety and Health Committee Local competent authorities 	Discussion by employee representatives of the Occupational Safety and Health Committee	1 case	1. In 2023, the Kaohsiung factory received a report from the public to the Kaohsiung City Government that the benzene and butadiene sections of the company's special health inspection had not been included in the inspection, and the case was confirmed to be without malpractice after relevant supporting information was provided, and the case closed.
Employment and human rights	Negative Impact - Violation 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.	 Submit a complaint to the unit supervisor Whistleblower mailbox in English and Chinese on the company website Employee feedback mailbox Contractors communication meeting Local competent authorities 	 Regular discussions between union representatives and representatives of the company's management team Non-employees can communicate and discuss with contractors at their communication meetings 	0 cases	 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. The Company will follow up on the status of improvements to the issues that need to be addressed.

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Climate-Related Risks and TSRC Countermeasures

Risk Type	Category	Name of risk	Impact on TSRC	Period of impact on TSRC ^{Note}	Risk level	Countermeasures and str	ategies
		Increased pricing of GHG emissions - Taiwan's carbon emissions fee	 Increase in TSRC's operating costs, and anticipating the GHG-related operating costs to continue to increase until 2030 Carbon fee will indirectly increase TSRC's procurement cost 	Short	High	 2022-2023: Reduced carbon emissions of the Dashe Factory by adopting low-carbon fuels and replacing with energy-efficient facility at the Factory. Completed the installation of solar panels at the Dashe Factory. Completed the Group's 2023 greenhouse gas inventory with verification. 	 2024: Expecting to continue upgrading to energy-efficient manufacturing facilities.
Transition risks	Policy and Regulation	Increased pricing of GHG emissions - EU CBAM	• TSRC's sales in EU may be affected by lower average prices or loss of orders due to lack of competitiveness of carbon footprint	Short	High	 2022-2023: TSRC Nantong Industries has purchased renewable energy in 2023. Nantong Industries reduced carbon emissions by 3.6% from 2021 through process improvements. Replaced energy-intensive or aging equipment with energy-saving ones at all sites. Calculated and certified product carbon footprint (ISO14067) in accordance with CBAM and customer requirements. 	 2024: Nantong Industries continues to procure more renewable energy. Reduce the carbon footprint in the product supply chain in advance to respond to CBAM. Continue to develop solutions to reduce product carbon footprint.
Transition	Policy and	Increased mandates and regulation for sustainability - Taiwan and Nantong Industries use renewable energy.	• Renewable energy procurement costs are rising and expected to continue to grow until 2030	Short	High	 2022-2023: TSRC's Kaohsiung Factory solar panels were officially commissioned at the end of 2023. Shanghai Industries completed self-generation and self-utilization of solar panels. 	 2024: Nantong Industries continues to procure more renewable energy.
risks Re	Regulation	Increased mandates and regulation for sustainability - timely disclosure in response to regulations	 Increase in verification costs Increase in GHG Inventory Information System costs 	Short	High	 2022-2023: Completed the establishment of GHG Inventory Information System. Completed the Group's GHG Inventory with certification ahead of government's schedule. 	 2024: Comply with the requirements and disclose relevant information timely and comprehensively.

Note:

1. Period of impact on TSRC: Short-term (within 3 years), medium-term (3-5 years), long-term (more than 5 years).

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Risk Type	Category	Name of risk	Impact on TSRC	Period of impact on TSRC ^{Note}	Risk level	Countermeasures and st	rategies
Transition		Cost of low-carbon technology transition - availability of technologies to reduce carbon emissions	 Increased capital expenditure to reduce carbon emissions by 2030 Increase in consulting fees for technology improvement 	Medium	High	 2022-2023: Improved Nantong Industries' production process to reduce steam use by 16% (equivalent to 2,100 metric tons of CO₂ emissions). Assessed the feasibility of carbon capture and storage. 	 2024: Continue to develop new carbon reduction programs.
risks	rechnology	Cost of low carbon technology transition - New R&D or technical talent	Increase in personnel costs	Medium	High	 2022-2023: 30% of recruitment for process and product optimization. Provided in-house training for management on carbon market and technology development 	 2024: Strengthen employees sustainable capabilitie Continue to develop industry-academia collaboration

2022-2023:

2022-2023:

2022-2023:

2022-2023:

Hiah

• Signed MOUs with suppliers for renewable

primary feedstock and obtain ISCC Plus

Improved international sustainability rating

scores for EcoVadis, DJSI, and CDP.

• Completed GHG inventory and carbon

Continuously assessed market demand.

for renewable raw material products.

Disclosed ESG sustainability strategy,

website.

targets and results in Investor conference

Established marketing and sales strategy

certification by Q4 2023.

footprint certification.

Developed bio-based alternatives.

opportunities.

footprint.

emission.

• Work with customers to

• Improve packaging

• Enhance ESG rating

• Evaluate market

raw materials.

• Continuously

demand for renewable

communicate with

stakeholders and maintain good

relationships.

compared to peers.

reduce product carbon

and logistics to reduce

customers' scope 3

2024:

2024:

2024:

2024:

risks	Reputation	sector	emissions and prevent pollution			and corporate website.Communicated ESG improvement and action plans with customers and banks.
lote: . Period of imp	act on TSRC: Sł	nort-term (within 3 years)	, medium-term (3-5 years), long-term (m	nore than 5 years).	

stakeholders and proactive

actions to reduce carbon

• Procurement of bio-based

procurement costs by 2-3

• Maintain favorable ESG rating

• Increased verification costs

• Procurement of bio-based

procurement costs by 2-3

feedstock increases

• Ongoing disclosure to

feedstock increases

times

scores

times

Changes in customer

behavior and

shifts in consumer

preferences

- customers

demand products

with renewable

feedstocks or lower

carbon footprints

Changes in customer

behavior and

shifts in consumer

preferences -

customer requests

for TSRC ESG ratings or certificates

Increased cost of raw

materials

Stigmatization of

Transition

risks

Transition

risks

Transition

Market

Market

Reputation

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Risk Type	Category	Name of risk	Impact on TSRC	Period of impact on TSRC ^{Note}	Risk level	Countermeasures and strategies		
Physical risks	Acute	Drought	 If there is not enough water reserve during drought, water will have to be purchased by trucks If water restrictions are enforced and the water supply is suspended 2 days per week, the reserve capacity will need to be increased in order to avoid interruption to the operation of the Dashe Factory 	Short	Low	 2022-2023: Established more water supply pipelines between the Kaohsiung Dashe Factory and other enterprises. Improved the wastewater recycling system of the Dashe Factory. 	 2024: Explore to increase water recycling and fresh water supply. Develop a plan for stable operation of the Dashe Factory with water cut-off 2 days a week. 	
Physical risks	Acute	Increased severity of extreme weather events - flooding due to heavy rains	 Disruption of production lines and services Damage to production equipment due to flooding Employee commute disruption due to flooding 	Short	Low	 2024: Strengthen drills to improve response capability and precautionary measures at all sites. Strengthen drainage systems at all sites. 		
Physical risks	Acute	Increased number of extreme weather events - losses due to heavy rainfall are not fully covered by insurance	Losses not covered by insurance	Short	Low	2024:Track the coverage of insurance.		

Note:

1. Period of impact on TSRC: Short-term (within 3 years), medium-term (3-5 years), long-term (more than 5 years).

Climate-Related Opportunities and TSRC's Countermeasures

Category	Name of opportunity	Meaning of opportunity to TSRC	Period of impact on TSRC	Countermeasures and strategies
Products and Services	Develop products and services with low carbon emissions or environmental impact, in order to improve profitability	Evaluate the development of low carbon markets and market demand of each country, provide low carbon solutions to help customers produce low carbon products and expand their market share, and continue to maintain the Company's competitiveness by meeting customers' needs	Short	 Researching market needs to understand customer demand for low carbon footprint products and sustainable products. Improving the performance of medical SEBS to meet customer needs. Developing bio-based alternatives. Continue to develop foaming products applications. Continuously evaluate and develop new business.
Market	Increase the willingness of stakeholders to make investments	Better ESG performance ratings from international investment and rating institutions, or the TSRC's investment in low-carbon related capital expenditures, will attract financial capital to TSRC	Medium	Combine loan sources with energy-saving and carbon reduction initiatives to support TSRC's major ESG-related capital expenditures, such as funding for solar panels at TSRC's Kaohsiung Dashe Factory in 2023.

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

TSRC classifies significant HSE incidents into three categories (severe, moderate, and minor) with reference to OSHA 1904, API RP754, and TSRC's historical incidents. The severe incident is defined as follows:



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Chapter 4

Governance

Sustainability Data

Operating Performance

2022-2023 Revenues and Expenses

(Unit: thous	sand NTD)	2022	2023
Direct economic value generated	Revenues	33,841,197	31,426,889
Economic value distributed	Operating costs	28,327,924	28,118,423
	Employee wages and benefits	2,354,249	2,412,279
	Payments to providers of capital (cash dividends)	2,228,062	1,055,102
	Payments to government (income tax)	946,491	370,313
	Community investments	2,811	2,863
Economic value retained = direct economic value generated -	(18,340)	(532,091)	

Compliance and Regulations

2022-2023 Fines for Violations of Regulations

(Unit: NTD; Number)	Fines for ir non-comp laws and reg governance asp	nstances of liance with gulations on / economics ects	Fines for in non-compl laws and reg environme	stances of iance with ulations on nt aspects	Fines for instances of non-compliance with laws and regulations on social / people aspects (Occupational safety and health included)		
	NTD	Number of violations	NTD	NTD Number of violations		Number of violations	
2022	0	0	1,070,000	5	200,000	2	
2023	0	0	645,000	2	0	0	

Greenhouse Gas Emissions

2022-2023 Scope 1 Emissions Covered under Emission-limiting Regulations

		Emissions from locations covered under emission-limiting regulations	Emissions from locations not covered under emission-limiting regulations but subject to voluntary disclosure	Tetal
	Unit: metric tons of CO ₂ e	Kaohsiung Factory, Shen Hua Chemical, Nantong Industries, TSRC-UBE	TSRC's Global Business Headquarter, Gangshan Factory, Shanghai Industries, TSRC (Vietnam) Co., Ltd., TSRC Specialty Materials LLC, Polybus. TSRC (Lux.)	Total
	Scope 1	113,940.56	24,323.19	138,263.75
2022	As a percentage of TSRC Group's Scope 1 emissions	82.41%	17.59%	100.00%
	Scope 1	119,796.17	19,453.61	139,249.78
2023	As a percentage of TSRC Group's Scope 1 emissions	86.03%	13.97%	100.00%

Note:

1. Locations governed by emission restriction 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 emission restriction regulations refer to locations that do not need to make declarations and are not subject to emission trading or other regulations, including TSRC's Global Business Headquarter, Gangshan Factory, Shanghai Industries, TSRC (Vietnam) Co., Ltd., TSRC Specialty Materials LLC, Polybus and TSRC (Lux.)

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

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

4. Scope 1 emissions and as a percentage of TSRC Group's Scope 1 emissions in 2022 have been restated after verification.

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2020-2023 GHG Emissions and Emission Intensity (by Subsidiaries)

	(Unit: metric tons of CO₂e)	TSRC Corporation	Shen Hua Chemical	Nantong Industries	TSRC-UBE	Shanghai Industries	TSRC (Vietnam) Company Limited	TSRC Specialty Materials LLC	Polybus	TSRC (Lux.)	TSRC Group in total
	Scope 1	89,910	4,785	52,000	68,874	27	0	16,935	n/a	n/a	232,531
	Scope 2	63,548	106,322	91,224	22,354	2,329	0	40,988	n/a	n/a	326,765
2020	Scope 1+2	153,458	111,107	143,224	91,228	2,356	0	57,923	n/a	n/a	559,296
	Production volume	173,773	170,426	55,560	63,036	12,214	0	46,521	n/a	n/a	521,529
	GHG emissions Intensity (metric tons of CO ₂ e per unit product)	0.88	0.65	2.58	1.45	0.19	0	1.25	n/a	n/a	1.07
	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
2021	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 (metric tons of CO ₂ e per unit product)	0.83	0.62	2.21	1.28	0.18	0.00	0.90	0.00	0.00	1.00
	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
2022	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 (metric tons of CO ₂ e per unit product)	0.84	0.60	2.16	1.31	0.21	1.47	1.01	0.00	0.00	1.01

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	(Unit: metric tons of CO₂e)	TSRC Corporation	Shen Hua Chemical	Nantong Industries	TSRC-UBE	Shanghai Industries	TSRC (Vietnam) Company Limited	TSRC Specialty Materials LLC	Polybus	TSRC (Lux.)	TSRC Group in total
	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
2023	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 (metric tons of CO ₂ e per unit product)	0.82	0.59	2.08	1.31	0.17	0.91	0.97	0.00	0.00	0.97

Note:

- 1. This table covers seven greenhouse gases: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride. The GWP value for 2020-2021 is from the IPCC AR5, and the GWP value for 2022-2023 is from the IPCC AR6.
- 2. The greenhouse gas emissions data for 2020 covers TSRC's Global Business Headquarter, Kaohsiung Factory, Gangshan Factory, Shen Hua Chemical, Nantong Industries, TSRC-UBE, Shanghai Industries, TSRC (Vietnam) Co., Ltd., and TSRC Specialty Materials LLC. It does not include two holding subsidiaries, Polybus and TSRC (Lux.), which are mainly engaged in trading business and were newly included in the scope of reporting in 2022. The operational control approach is adopted. Only the data of Kaohsiung Factory and Gangshan Factory were verified by a third party.
- 3. The reporting boundary of 2021-2023 covers all factories and subsidiaries identical to the reporting scope of this report. The operational control approach is adopted in accordance with ISO14064:2018. Verification conducted by DNV GL Business Assurance Co., Ltd. (DNV) in 2023. The data is rounded to the second decimal place. Verification Statement please refer to <u>TSRC website</u>.
- 4. The emission factors are from:
- [Taiwan] the global business headquarter, Kaohsiung Factory and Gangshan Factory: Use emission factors published by Taiwan Environmental Protection Agency (version 6.0.4).
- [China] Shen Hua Chemical, Nantong Industries, TSRC-UBE, and Shanghai Industries: Use 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.
- [Vietnam] TSRC (Vietnam) Co., Ltd.: Use the electricity emission factors published by Vietnam Ministry of Industry and Trade and Vietnam Ministry of Natural Resources and Environment and the IPCC assessment reports.
- [USA] TSRC Specialty Materials LLC: Use US Environmental Protection Agency database and the IPCC assessment reports.
- 5. Restatements of information: Greenhouse Gas Emissions in 2022 were restated due to verification of data, Scope 1 emissions of 138,447 metric tons of CO₂e were changed to 138,263.75 metric tons of CO₂e, the degree of change accounts for 1.32 x 10³ of the original Scope 1 emissions. Scope 2 emissions of 408,181 metric tons of CO₂e changed to 407,234.28 metric tons of CO₂e, the degree of change accounts for 2.32 x 10³ of the original Scope 1 emissions of 546,628 metric tons of CO₂e changed to 545,498.03 metric tons of CO₂e, the degree of change accounts for 2.07 x 10³ of the original Scope 1+2 emissions.

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Energy Management

2020-2023 TSRC Purchased Energy (by Subsidiaries)

Year	Purchased E	nergy	TSRC Corporation	Shen Hua Chemical	Nantong Industries	TSRC-UBE	Shanghai Industries	TSRC (Vietnam) Company Limited	TSRC Specialty Materials LLC	Polybus	TSRC (Lux.)	TSRC Group in total
	Amount of electrici purchased from ex sources (MWh)	ty ternal	105,790	53,467	49,993	21,868	4,576	0	20,163	n/a	n/a	255,857
	The steam purchas external sources (m	ed from netric ton)	49,068	192,784	176,435	22,935	0	0	179,368	n/a	n/a	620,590
	The energy	Electricity	380,844	192,481	179,975	78,725	16,474	72,587	n/a	n/a	n/a	921,085
2020	consumption	Steam	110,894	435,692	398,743	51,833	0	405,372	n/a	n/a	n/a	1,402,533
	ot external purchases (GJ)	Electricity & Steam	491,738	628,173	578,718	130,558	16,474	477,958	n/a	n/a	n/a	2,323,619
	Production volume	(metric tons)	173,773	170,426	55,560	63,036	12,214	0	46,521	n/a	n/a	n/a
	Indirect energy inte unit product (GJ/me	e nsity per etric tons)	2.83	3.69	10.42	2.07	1.35	0	10.27	n/a	n/a	4.46
	Amount of electricit purchased from ex- sources (MWh)	ty ternal	108,106	54,051	60,513	21,338	4,170	2,290	20,413	n/a	n/a	270,881
	The steam purchas external sources (m	ed from netric ton)	59,025	192,407	392,510	230,190	0	0	139,154	n/a	n/a	1,013,286
	The energy	Electricity	389,182	194,584	217,847	76,817	15,012	73,487	n/a	n/a	n/a	975,173
2021	consumption	Steam	133,397	434,839	887,073	520,229	0	314,488	n/a	n/a	n/a	2,290,026
	purchases (GJ)	Electricity & Steam	522,578	629,423	1,104,919	597,046	15,012	387,975	n/a	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 inte unit product (GJ/me	e nsity per etric tons)	2.69	3.68	14.97	9.15	1.51	0	8.10	n/a	n/a	5.81

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Year	Purchas	ed Energy	TSRC Corporation	Shen Hua Chemical	Nantong Industries	TSRC-UBE	Shanghai Industries	TSRC (Vietnam) Company Limited	TSRC Specialty Materials LLC	Polybus	TSRC (Lux.)	TSRC Group in total
	Amount of elect purchased from sources (MWh)	etricity n external	92,803	53,899	65,727	21,165	2,703	1,164	20,850	4	2	258,317
	The steam pur external source	chased from es (metric ton)	27,993	177,090	320,918	215,399	0	0	138,157	0	0	879,556
	The energy	Electricity	334,091	194,038	236,616	76,195	9,730	4,190	75,060	14	9	929,941
2022	consumption	Steam	63,263	400,222	951,927	638,929	0	0	312,235	0	0	2,366,577
	of external purchases (GJ)	Electricity & Steam	397,355	594,260	1,188,543	715,123	9,730	4,190	387,295	14	9	3,296,518
	Production vol	ume (metric tons)	178,484	170,522	72,822	67,217	5,494	577	44,910	0	0	540,026
	Indirect energy unit product (G	r intensity per J/metric tons)	2.22	3.48	16.32	10.64	1.77	7.26	8.62	n/a	n/a	6.10
	Amount of elect purchased from sources (MWh)	ctricity n external	89,225	56,633	51,395	20,831	2,440	1,379	18,683	3	3	240,591
	The steam pur external source	chased from es (metric ton)	223	183,646	291,595	225,965	0	0	125,417	0	0	826,846
	The energy	Electricity (non-renewable energy)	321,212	203,880	185,020	74,992	8,782	4,964	67,257	10	11	866,128
2023	consumption of external purchases	Electricity (renewable energy)	0	0	36,001	0	0	0	0	0	0	36,001
	(GJ)	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 vol	ume (metric tons)	178,370	171,221	66,747	67,622	6,094	1,101	39,846	0	0	531,001
	Indirect energy unit product (G	/ intensity per J/metric tons)	1.80	3.61	16.27	11.02	1.44	4.51	8.80	n/a	n/a	5.91

Note:

1. This table uses the following units of measurement conversion:

• 1W = 1 J/S, 1000 kWh = 1000kW*3600S/H = 3,600,000 k Joule = 3600 million Joule

• For 2023 data, except for Nantong Industries and TSRC-UBE, the amount of heat required to vaporize one ton of water is calculated by 2.96626GJ. Other factories are calculated based on the amount of heat required to vaporize one ton of water as 2.26GJ.

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2020-2023 TSRC Energy Consumption

(Unit	:: GJ)	2020	2021	2022	2023
	Bituminous coal	1,179,625.25	0.00	0.00	0.00
	Fuel oil	22,762.09	0.00	0.00	0.00
	Plant diesel	14,775.47	5,283.02	12,126.96	9,936.36
	Natural gas	1,621,896.17	1,822,886.21	1,763,823.66	1,815,902.91
Non-renewable	Liquefied petroleum gas (LPG)	4,161.60	1,824.44	769.22	239.91
energy	Gasoline	1,070.08	1,415.94	1,241.03	1,530.97
	Recycled butadiene	53,400.51	59,917.15	66,979.31	76,259.51
	Purchased electricity	921,085.20	975,172.68	929,941.41	866,128.46
	Purchased steam	1,402,533.40	2,290,025.73	2,366,576.76	2,234,203.88
	Subtotal	5,221,309.77	5,156,525.17	5,141,458.35	5,004,202.00
	Purchased electricity	0.00	0.00	0.00	36,000.60
Renewable energy	Self-generated electricity	0.00	0.00	0.00	2,077.38
	Subtotal	0.00	0.00	0.00	38,077.98
Total energy consur	nption	5,221,309.77	5,156,525.17	5,141,458.35	5,042,279.98
Self-generated elec (non-renewable ene	tricity ergy)	0.00	22,952.62	60,071.87	82,148.90
Percentage of elect power grid (%)	ricity used from the	100.00%	97.70%	93.96%	87.81%
Percentage of renew	ercentage of renewable energy (%)		0.00%	0.00%	0.76%
Percentage of elect out of total energy of	ricity from the grid consumption (%)	17.64%	18.91%	19.33%	17.18%

Note:

- The 2020-2021 data covers the Global Business Headquarters within the reporting boundary, two factories (Kaohsiung and Gangshan), and 6 subsidiaries that engage in manufacturing activities. It excludes 2 holding companies, Polybus and TSRC (Lux.), which mainly engage in trading activities.
- The 2022-2023 data covers the Global Business Headquarters within the reporting boundary, two factories (Kaohsiung and Gangshan), 6 subsidiaries and 2 holding companies, Polybus and TSRC (Lux.), which mainly engaged in trading activities.
- 3. The TSRC (Lux.) data is based on the sum of the electricity used on the LEO online inquiry platform (launched on October 16, 2023) and the annual settlement payment notice, which is the annual electricity consumption. However, the data from April 19, 2023 to before the launch of the inquiry platform is based on the average value from January to April 2023, and the actual data will be available at the end of April 2024.
- 4. The energy conversion factors are based on the "GHG Emission Inventory Guideline (non-official translation)" 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 using rounding rules.
- Organization Total energy consumption= the internal energy consumption= nonrenewable energy + renewable energy.
- 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))).
- Percentage of renewable energy (%) = (Purchased electricity (Renewable energy) + Self-generated electricity (renewable energy)) / Total energy consumption.
- 8. Percentage of electricity from the grid out of total energy consumption (%) = Purchased electricity (non-renewable energy) / Total energy consumption.
- 9. Heating value conversion factor of each energy use refers to 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 based on 7,800 kcal/L calculation. For steam, except for Shenhua 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.
- 10. Except for Shen Hua Chemical and Nantong Industries, the other factories use the standard 1 atmosphere that the amount of heat required to vaporize one ton of water = 2.26 GJ calculation. Shen Hua Chemical and Nantong Industries have heating value conversion factor provided by suppliers, and it is calculated based on a ton of water 2.96626GJ.
- 11. Starting from 2021, all manufacturing factories of TSRC no longer use bituminous coal and fuel oil as energy sources.
- 12. Restatements of information:TSRC Group's direct energy consumption data in 2022 is revised based on verification, and the indirect energy consumption value is changed due to the change of the unit conversion factor of TSRC purchased steam.

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Product Stewardship

2020-2023 The Sale of Products that Contain Globally Harmonized System of Classification and Labeling of Chemicals (GHS) Substances

Unit: thousands of NT\$, %	2020	2021	2022	2023
Total sales of all company products	24,024,443	32,533,238	33,841,197	31,426,889
Total sales of products containing GHS Category 1 and Category 2 substances	23,173,891	31,440,852	32,718,567	30,277,231
Total sales of products containing GHS Category 1 and Category 2 substances as a percentage of total sales of all company products (%)	96.46%	96.64%	96.68%	96.34%
Total sales of products containing GHS Category 1 and Category 2 substances that have been through the Company's hazard evaluation (in thousands of NTD)	23,173,891	31,440,852	32,718,567	30,277,231
Total sales of products containing GHS Category 1 and Category 2 substances that have completed the Company's hazard evaluation as a percentage of total sales of products containing GHS Category 1 and Category 2 substances (%)	100%	100%	100%	100%

Note:

1. TSRC products contain Category 1 substances butadiene (accounting for 95-100 w/w%).

Waste Management

2023 General Industrial Waste and Hazardous Industrial Waste Generated

Unit: Matria tana (1 000 kg)	TS	Shen Hua	Nantong		Shanghai	TSRC (Vietnam)	TSRC Specialty	TSRC Group		
	Kaohsiung Factory	Gangshan Factory	Chemical	Industries	TSRC-UDE	Industries	Limited	Materials LLC	in total	
Total non-recyclable general industrial waste	411.30	50.95	7.48	74.00	31.72	52.83	1.10	365.84	995.21	
Total reuse of General Industrial waste	230.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	230.38	
Total recyclable General Industrial waste	492.83	22.67	291.88	1,406.98	102.30	36.28	24.03	0.00	2,376.97	
Total General Industrial waste	1,134.51	73.62	299.36	1,480.98	134.02	89.11	25.13	365.84	3,602.57	
Total 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	
Total recyclable hazardous industrial waste	0.00	0.00	170.20	26.14	9.92	37.21	0.00	583.25	826.71	
Total Hazardous industrial waste	125.67	0.00	1,343.25	432.38	244.30	37.35	2.63	617.21	2,802.79	

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2021-2023 Recycling and Treatment Weight and Percentage of General Industrial Waste and Hazardous Industrial Waste (by Subsidiaries)

		TS	RC	Shen Hua	Nantong		Shanghai	TSRC (Vietnam)	TSRC Specialty	TSRC	
	(Unit: Metric tons)	Kaohsiung Factory	Gangshan Factory	Chemical	Industries	TSRC-UBE	Industries	Company Limited	Materials LLC	in total	
	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 treated by recycling		491.73	311.27	1,572.18	299.59	6.00	0.00	0.00	2,680.76	
2021	Percentage of general industrial waste treated by recycling		90.00%		97.53%	94.64%	27.91%	0.00%	0.00%	67.89%	
2021	Total weight of hazardous industrial waste		75.23		350.59	346.30	48.8	0.5	371.57	2,516.11	
	Treated by recycling	0.00		143.22	23.29	1.54	0.00	0.00	365.14	533.18	
	Percentage of hazardous industrial waste treated by recycling	0.00%		10.82%	6.64%	0.44%	0.00%	0.00%	98.27%	21.19%	
	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 treated by recycling	770.64	21.68	225.34	1,222.97	170.32	3.80	28.33	0.00	2,473.09	
2022	Percentage of general industrial waste treated by recycling	62.62%	25.21%	90.07%	94.33%	83.55%	100.00%	95.10%	0.00%	69.30%	
2022	Total weight of hazardous industrial waste	136.46	0.00	845.36	475.26	287.08	23.00%	1.32	591.76	2,360.24	
	Treated by recycling	0.00	0.00	94.29	23.96	6.50	22.93	0.00	566.36	714.03	
	Percentage of hazardous industrial waste treated by recycling	0.00%	0.00%	11.15%	5.04%	2.26%	99.70%	0.00%	95.71%	30.25%	

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	(Unit: Metric tons)		TSRC		Nantong	TSPC-URE	Shanghai	TSRC (Vietnam)	TSRC Specialty	TSRC
			Gangshan Factory	Chemical	Industries	TSRC-UDE	Industries	Company Limited	Materials LLC	in total
	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
2023	General industrial waste treated by recycling	492.83	22.67	291.88	1,406.98	102.30	36.28	24.03	0.00	2,376.97
	General industrial waste that is disposed of by reuse	230.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	230.38
	Percentage of general industrial waste treated by recycling and reuse	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	2,802.79
	Treated by recycling	0.00	0.00	170.20	26.14	9.92	37.21	0.00	583.25	826.71
	Percentage of hazardous industrial waste treated by recycling	0.00%	n/a	12.67%	6.05%	4.06%	99.63%	0.00%	94.50%	29.50%

Note:

1. This table only includes factories and subsidiaries with manufacturing activities within the reporting boundary. The two trading-based subsidiaries, Polybus and TSRC (Lux.), as well as the office-oriented Global Business Headquarter and TSRC Specialty Materials LLC office, generate only general domestic waste, not industrial waste.

The data source for all factory is the waste removal and disposal (transfer) records provided by waste treatment manufacturers, rounded to the second decimal place. TSRC Kaohsiung Factory, Gangshan Factory, Nantong Industries, TSRC-UBE, Shen Hua Chemical report to the government waste platform every month, while 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.

3. TSRC Gangshan Factory, Shen Hua Chemical, Nantong Industries, TSRC-UBE clarified in 2023 and restated of information for 2021 and 2022 data due to that some waste was not included in the calculation. 2021 and 2022 data of TSRC Specialty Materials LLC, a subsidiary of the U.S., are estimated according to production volumes, and the 2021 and 2022 waste data have been restated due to the release of the 2021 and 2022 ERIC reports.

4. Non- hazardous general industrial waste includes: (1) incinerating, landfilling, and heat treatment and other disposed of General Industrial waste that cannot be recycled, including non-recyclable waste plastic mixtures, inorganic sludge, waste rubber and waste packaging materials, etc., (2) Recyclable General Industrial waste, including scrap iron, waste paper, rubber scrap, waste aluminum foil and waste metal boxes, (3) Reusable General Industrial waste, including waste rubber, waste vood, waste lubricating oil, etc.

5. Hazardous industrial waste includes: (1) non-recyclable waste oil, waste liquid, organic waste residue, sludge, waste chemicals, containers containing hazardous substances, etc.; (2) recyclable waste oil, waste packaging materials, waste containers, etc., which are identified according to the regulations announced by the competent authorities:

• [Taiwan] Kaohsiung Factory and Gangshan Factory: According to the definition of "Hazardous Industrial waste Recognition Standard" published by Taiwan Environmental Protection Agency

• [China] Shen Hua Chemical, Nantong Industries, TSRC-UBE, and Shanghai Industries: According to the definition of the hazardous waste list published by the government of China.

• [Vietnam] TSRC (Vietnam) Co., Ltd.:08/2022/ND-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.

6. Restatements of information:

• Non-hazardous General Industrial waste (including general waste and recycling) for 2022 was adjusted to the calculation scope due to Shen Hua Chemical (included rubber scrap), TSRC-UBE adjusted the calculation scope (included in waste electronic equipment), and TSRC Specialty Materials LLC revised the calculation basis (the original estimated waste generation using production to the actual monthly waste removal volume) from 3,260 metric tons to 3,568.65 metric tons, the degree of change accounted for 9.47 x 10⁻² of the original production.

Hazardous industrial waste generation for 2022, due to Shen Hua Chemical adjusted the calculation scope (including R-BD and R-SM), Nantong Industries adjusted the calculation scope (including waste empty barrels, etc.), TSRC-UBE adjusted the calculation scope (including waste empty barrels, etc.), and TSRC Specialty Materials LLC changed the information calculation basis from 2,144.63 metric tons to 2,360.24 metric tons for the above reasons, the degree of change accounts for 1.01 x 10⁻¹ of the original production.

• The total weight of all waste in 2022 was restated from 5,404.63 metric tons to 5,928.89 metric tons due to the above amendments, the degree of change accounted for 9.70 x 10² of the original production.

• The amount of waste generated per unit product in 2022 has been restated from 10.01 to 10.98 (ton/thousand metric tons of production volume) for the reasons mentioned above, the degree of change accounts for 9.69 x 10⁻² of the waste generated per unit product.

- Non-hazardous General Industrial waste (including general waste and recycling) for 2021 was adjusted to the calculation scope due to Gangshan Factory (included waste paper and scrap iron, etc.), Shen Hua Chemical adjusted the calculation scope, Nantong Industries adjusted the calculation scope (include rubber scrap, scrap metal, etc.), TSRC-UBE adjust the calculation scope (include rubber scrap, scrap metal, etc.), and TSRC Specialty Materials LLC revised the calculation basis from 2,592 metric tons to 3,948.41 metric tons, the degree of change accounted for 5.23 x 10⁻¹ of the original amount.
- Hazardous industrial waste generation for 2021, due to Shen Hua Chemical revised the calculation basis (the calculation of empty barrels was changed from quantity to weight) and adjusted the calculation scope (to include R-BD and R-SM), Nantong Industries adjusted the calculation scope (to include waste empty barrels, etc.), TSRC-UBE (including waste empty barrels, etc.), and TSRC Specialty Materials LLC revised the calculation basis and other factors, from 1,873.05 metric tons were changed to 2,516.11 metric tons, accounting for 3.43 x 10⁻¹ of the original amount.

• The total weight of all waste in 2021 was restated from 4,465.05 metric tons to 6,464.52 metric tons due to the above amendments, the degree of change accounts for 4.48 x 10⁻¹ of the original production.

• The amount of waste generated per unit product in 2021 has been restated from 7.94 to 11.50 (metric tons/per thousand metric tons of production volume) due to the above amendments, the degree of change accounts for 4.48x 10-1 of the waste generated per unit product.

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Water Resource Management

2023 Water Withdrawal, Discharge, and Consumption (by Water-stressed Areas)

In Provincial And County-Level	Regions with Extreme- High Water Stress	Regions with Stro	n High Water ess	Regions w to High V	vith Moderate Nater Stress	Regions With Low Water Stress						TSRC	
(Unit: thousand		TS	RC	TSRC Specialty		TSRC	TSRC				TSRC Specialty		Group Total
cubic meters = million liter = thousand tons)	Shanghai Industries	Kaohsiung Factory	Gangshan Factory	TSRC (Lux.)	Materials LLC (office)	(Vietnam) Company Limited	Global Business Headquarters	Shen Hua Chemical	Nantong Industries	TSRC-UBE	Materials LLC (factory)	Polybus	
Fresh water withdrawal	9.44	1,557.53	2.79	0.04	1.34	6.05	2.24	908.00	327.15	264.73	83.86	0.02	3,163.19
Groundwater withdrawal	0.00	6.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.77
Consumption of purchased steam	0.00	0.22	0.00	0.00	0.00	0.00	0.00	183.65	261.59	225.97	125.09	0.00	826.52
Wastewater recycled	0.00	505.89	0.00	0.00	0.00	0.00	0.00	89.71	165.59	157.57	0.00	0.00	918.76
Purchased reclaimed water	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	212.48	0.00	212.48
Water usage	9.44	2,070.41	2.79	0.04	1.34	6.05	2.24	1,181.36	784.33	648.27	421.43	0.02	5,127.72
Water discharge	9.44	1,032.41	1.88	0.04	1.34	1.19	2.24	876.44	265.86	244.97	357.63	0.02	2,793.46
Water consumption	0.00	1,038.00	0.91	0.00	0.00	4.86	0.00	304.92	518.47	403.30	63.80	0.00	2,334.26

Note:

1. The fresh water withdrawal comes from fresh water (< 1,000 mg/L total dissolved solids) supplied by the local water company. TSRC Kaohsiung Factory also used groundwater.

2. Water usage = Fresh water withdrawal + Groundwater withdrawal + Consumption of purchased steam + Wastewater recycled + Purchased reclaimed water.

3. Water consumption = Water usage - Water discharge.

4. TSRC (LUX) is using 2022 data as 2023 water use data is not yet available.

5. The purchased steam is also used as one of the sources of process water after the purpose of heat exchange. The evaporation of purchased steam is not considered.

6. The data in this table is rounded to two decimal places.

7. Regarding water resource risk:

The water resource risk assessment results in this table are from the World Resource Institute (WRI) Aqueduct county-level data. Based on county- and city-level, the water resource risks at Shen Hua Chemical and TSRC-UBE and Nantong Industries (Jiangsu Province, China), the TSRC Specialty Materials LLC factory (Louisiana State, the United States) and Polybus (Singapore) has a low water stress risk (<10%), while the TSRC (Vietnam) Co., Ltd. (Pingyang Province in Vietnam) is low to medium risk (10-20%). The holding subsidiary, TSRC (Lux.), located in Luxemburg, mainly engaged in trading, and TSRC Specialty Materials LLC office (Texas, the United States) has a moderate to high water resource risk (20-40%). Shanghai Industries (Shanghai city, China) has the extreme-high water stress (>80%). For the Taiwan factories, the relevant information is not available on Aqueduct.

• Regardless of dry or abundant 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.

8. In 2023, fresh water and groundwater water withdrawal in areas with high water stress and extremely high risk (according to local analysis) accounted for 49.73% of the group's total water withdrawal, and water consumption in areas with high water stress and extremely high risk accounted for 44.51% of the group's total water consumption.

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Chapter 4

Governance

Air Pollution Prevention and Management

2020-2023 Emissions of Air Pollutants (by Subsidiaries)

	(Unit: Metric tons)	TS	RC	Shen Hua	Nantong		Shanghai	TSRC (Vietnam)	TSRC Specialty	TSRC Group
	(Unit: Metric tons)	Kaohsiung Factory	Gangshan Factory	Chemical	Industries	TSRC-UBE	Industries	Company Limited	Materials LLC	in total
	Nitrogen Oxides (NOx)		6.22	0.94	45.58	70	0	N/A	11.63	134
2020	Sulfur Oxides (SOx)		3.41		5.6	8	0	N/A	0.87	18
	Volatile Organic Compounds (VOCs)		140.51		5.77	2.47	0	N/A	12.64	162.10
Nitrogen Oxides (NOx)			5.02	0	0	0	0	0	10.33	15.35
2021	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
	Nitrogen Oxides (NOx)	3.17	0.00	0.48	0.00	0.00	0.00	0.00	3.77	7.42
	Nitrogen oxides excluding N2O	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2022	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
	Nitrogen Oxides (NOx)	4.08	N/A	2.38	1.70	0.9162	N/A	N/A	3.35	12.42
	Nitrogen oxides excluding N ₂ O	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0000	Sulfur Oxides (SOx)	N/A	N/A	1.57	1.70	0.5256	N/A	N/A	0.00	3.80
2023	Volatile Organic Compounds (VOCs)	147.42	5.67	6.15	25.00	15.72	0.00	0.09	112.76	312.81
	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

Note:

1. This chart only includes manufacturing sites and subsidiaries with manufacturing activities within the reporting boundary. Two holding subsidiaries, Polybus and TSRC (Lux.), which mainly engage in trading activities, and the Global Business Headquarters which mainly handles office affairs, are therefore excluded from the table as they have no manufacturing activities.

2. Data of TSRC Kaohsiung Factory, Shen Hua Chemical, Nantong Industries, and TSRC-UBE is from continuous measurement. Data of TSRC (Vietnam) Co., Ltd. and TSRC Specialty Materials LLC is based on the US EPA standard. Data of American subsidiary TSRC Specialty Materials LLC in 2023 is estimated based on production ratio between 2023 and 2022. It is expected that the data will be updated after TSRC Specialty Materials LLC submits the ERIC report to the US government in Q2 2024.

3. TSRC Air pollution detection is monitored by CEMS in accordance with laws and regulations, and is not tested for individual species, and Nitrogen oxides (NOx) cannot deduct N₂O.

4. In 2023, the sulfur oxides were removed from the list, so there is no detection data for the Kaohsiung Factory and Gangshan Factory.

5. Only US Factory is required to perform HAPs testing due to regulatory requirements. Other factories have not been tested because there are no requirements in the regulations.

6. Restatements of information:

• Nitrogen oxides (NOx) emissions in 2022 were revised from 15.66 metric tons to 7.42 metric tons, based on the publication of the Emissions Reporting and Inventory Center (ERIC) report by TSRC Specialty Materials LLC in Louisiana. This revision is due to the change in calculation method from estimating emissions based on production volume to using actual emission data.

Volatile organic compounds (VOC) emissions in 2022 were revised from 192.12 metric tons to 336.38 metric tons due to the updates and revisions of the calculation scope by Nantong Industries, TSRC-UBE, and Shen Hua Chemical, as well as the adjustment of the calculation method, and TSRC Specialty Materials LLC adjusted the calculation baseline due to the publication of the ERIC report for that year. The degree of change accounts for 7.51x10⁻¹ of the original emissions.

• Nitrogen oxides (NOx) emissions in 2021 were revised from 15.66 metric tons to 15.35 metric tons for the same reasons as above, the degree of change accounts for 1.98 x 10² of the original emissions.

• Volatile organic compounds (VOC) emissions in 2021 changed from 192.12 metric tons to 462.93 metric tons, due to the inclusion of the calculation for the Gangshan Factory, the update of the scope for Nantong Industries and TSRC-UBE (including the inclusion of flare emissions) and the correction of the calculation method (from original adjustment for missing continuous monitoring equipment performance to manual monitoring), the update of the scope for Shen Hua Chemical (from fugitive emissions to stationary emissions) and the correction of the calculation method (from original adjustment of detection report values to online monitoring values), and the adjustment of calculation basis for TSRC Specialty Materials LLC due to the aforementioned reasons. The degree of change accounts for 1.41x10⁰ of the original emissions.

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Production Volume

2020-2023 Production Volume (by Subsidiaries)

(Unit:	TS	TSRC		Nantong		Shanghai	TSRC (Vietnam)	TSRC Specialty	TSRC Group in	
Metric ton)	Kaohsiung Factory	Gangshan Factory	Chemicals	Industrial	ISRC-UBE	Industrial	Company Limited	Materials LLC	total	
2020		173,773	170,426	56,560	63,036	12,214	0	46,521	521,529	
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	

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 and do not have any production activities.

2020-2023 Revenue from Products with Environmental Contribution

(Unit: thousands of NT\$)

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Product Type	Product Explanation	2020	2021	2022	2023
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. The application to shoe materials can increase wear resistance and prolongs the lifecycle of shoe materials. All of the above can achieve the purpose of reducing carbon emissions in the environment and extending the lifecycle of products. 	186,385	371,710	459,279	638,148

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Employees

Number of TSRC Employees in 2023 (by Age)

Region		Taiwan			Mainla	nd China		Vietnam	U	SA	Singapore	Europe
(Unit: Number of employees)	TSRC Kaohsiung Factory	TSRC Gangshan Factory	Global Business Headquarter	Shen Hua Chemical	Nantong Industries	TSRC-UBE	Shanghai Industries	TSRC (Vietnam) Company Limited	TSRC Specialty Materials LLC	TSRC (USA)	Polybus	TSRC (Lux.)
Age of 30 and younger	29	1	0	72	57	16	4	8	7	0	0	0
Age between 30-50	331	51	51	198	245	96	61	15	44	0	1	5
Age of 50 and older	148	17	28	70	26	7	12	3	38	1	1	9
Total	508	69	79	340	328	119	77	26	89	1	2	14

Note:

1. The employee in this table refers to permanent full-time employees. 2023 TSRC employs one full-time temporary employee as visually impaired masseur, and non-permanent part-time employees and employees without guaranteed hours.

2. The number of employees in this table is calculated as number of people employed on 31 December 2023.

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, is included in the calculation due to the employment of one full-time employee over the age of 50. It is to ensure the number is consistent to TSRC's other report.

Number of TSRC Employees in 2023 (by Subsidiaries, Gender, Region, and Type of Employee Contract)

	Regio	'n	Taiwan		Mainlar	nd China		Vietnam	U	SA	Singapore	Europe	
(Unit er	t: Num mploye	ber of ees)	TSRC	Shen Hua Chemical	Nantong Industries	TSRC-UBE	Shanghai Industries	TSRC (Vietnam) Company Limited	TSRC Specialty Materials LLC	TSRC (USA)	Polybus	TSRC (Lux.)	TSRC Group
Full-ti	ime	Male	546	299	294	97	55	12	67	1	2	7	1,380
Employ	yees	Female	110	41	34	22	22	14	22	0	0	7	272
Tota E (by s	l of Fu mploy subsid	ll-time ees iaries)	656	340	328	119	77	26	89	1	2	14	1,652
Tota Employe	l of Fu ees (by	ll-time y regions)	656				864	26		90	2	14	1,652

Note:

1. The employees in this table refers to permanent full-time employees. 2023 TSRC employs one full-time temporary employee as visually impaired masseur, and non-permanent part-time employees and employees without guaranteed hours.

2. The number of employees in this table is calculated as number of people employed on 31 December 2023.

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Number of Non-employee Workers in 2023 (by Subsidiaries, Gender, and Regions)

F	Region	Taiwan		Mainlar	nd China		Vietnam	USA	Singapore	Europe	
(Unit: em	Number of ployees)	TSRC	Shen Hua Chemical	Nantong Industries	TSRC-UBE	Shanghai Industries	TSRC (Vietnam) Company Limited	TSRC Specialty Materials LLC	Polybus	TSRC (Lux.)	TSRC Group
	Male	58	64	87	27	8	7	63	0	0	314
Non- emplovee	Female	6	8	10	4	3	4	11	0	0	46
workers	Total (by subsidiaries)	64	72	97	31	11	11	74	0	0	360

Note:

1. The number of employees in this table is calculated as number of people employed on 31 December 2023.

2. The non-employee workers include security guards, cleaners, and on-site support staff.



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7 TSRC New Employees in 2023 (by Subsidiaries, Age, Gender, and Regions)

R	egion	Tai	iwan				Mainlar	nd China				Vie	tnam		U	SA		Sing	apore	Eu	оре	
		T	SRC	Shen Hua	Chemical	Nantong	Industries	TSRC	C-UBE	Sha Indu	nghai stries	TSRC (Compan	Vietnam) y Limited	TSRC S Materi	pecialty als LLC	TSRC	(USA)	Pol	ybus	TS (Li	SRC ux.)	TSRC
(Unit: emp	Number of bloyees)	Number of new employees	Percentage	Number of new employees	Percentage	Number of new employees	Percentage	Number of new employees	Percentage	Number of new employees	Percentage	Number of new employees	Percentage	Group								
Gondo	Male	45	88.24%	59	93.65%	22	95.65%	9	100%	2	66.67%	2	25.00%	14	93.33%	0	0.00%	0	0.00%	0	0.00%	153
Gende	Female	б	11.76%	4	6.35%	1	4.35%	0	0.00%	1	33.33%	6	75.00%	1	6.67%	0	0.00%	0	0.00%	0	100.00%	19
	Age of 30 and younger	10	8.89%	45	71.43%	10	43.48%	4	44.44%	1	33.33%	1	12.50%	6	40.00%	0	0.00%	0	0%	0	0%	77
Age	Age between 30-50	37	86.67%	16	25.40%	11	47.83%	5	55.56%	2	66.67%	7	87.50%	5	33.33%	0	0.00%	0	0%	0	0.00%	83
	Age of 50 and older	4	4.44%	2	3.17%	2	8.70%	0	0.00%	0	0.00%	0	0.00%	4	26.67%	0	0.00%	0	0%	0	0%	12
Total new e	number of mployees	51	100.00%	63	100.00%	23	100.00%	9	100.00%	3	100.00%	8	100.00%	15	100.00%	0	0.00%	0	0%	0	100.00%	172
Tota of f em	l number ull-time ployees		656		340		328		119		77		26		89		1		2		14	1,652
(By sul New H Total n new er Total n of full- employ	bsidiaries) ire Ratio= umber of nployees/ umber time yees		7.78%		18.53%		7.01%		7.56%		3.90%		30.77%		16.85%		0.00%		0.00%		0.00%	10.41%

Note:

1. In 2023, there were 1,652 permanent employees and 1 temporary employee. The temporary employee was a visually impaired masseur, who was a full-time employee of TSRC. However, due to the nature of his/her work, he/she was not subject to the Group employees' performance appraisal, education, and training mechanisms. Consequently, the new hire ratio for the division was calculated based on the ratio of new employees to the number of full-time permanent employees.

2. The new hire ratio in this table is calculated based on the number of permanent full-time employees employed on 31 December 2023. The data in this table is rounded to two decimal places.

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Departing Employees in 2023 (by Subsidiaries, Age, Gender, and Regions)

R	egion	Tai	wan				Mainlar	nd China				Vie	tnam		U	SA		Sing	apore	Eur	ope	
		TS	SRC	Shen Hua	Chemical	Nantong	Industries	TSR	C-UBE	Shai Indu	nghai stries	TSRC (Compan	Vietnam) y Limited	TSRC S Materi	pecialty als LLC	TSRC	(USA)	Pol	ybus	TS (Li	RC JX.)	TSRC
(Unit: I emp	Number of bloyees)	Number of departing employees	Percentage	Number of departing employees	Percentage	Number of departing employees	Percentage	Number of departing employees	Percentage	Number of departing employees	Percentage	Number of departing employees	Percentage	Group								
Gondo	Male	50	87.72%	30	93.75%	16	94.12%	7	100.00%	1	100.00%	2	20.00%	10	71.43%	0	0.00%	0	0.00%	2	100.00%	118
Gende	Female	7	12.28%	2	6.25%	1	5.88%	0	0.00%	0	0.00%	8	80.00%	4	28.57%	0	0.00%	0	0.00%	0	0.00%	22
	Age of 30 and younger	5	8.77%	17	53.13%	11	64.71%	3	42.86%	0	0.00%	1	10.00%	3	21.43%	0	0.00%	0	0.00%	0	0%	40
Age	Age between 30-50	32	56.14%	11	34.38%	4	23.53%	4	57.14%	1	100.00%	9	90.00%	5	35.71%	0	0.00%	0	0.00%	1	50.00%	67
	Age of 50 and older	20	35.09%	4	12.50%	2	11.76%	0	0.00%	0	0.00%	0	0.00%	6	42.86%	0	0.00%	0	0.00%	1	50.00%	33
Total r new e	number of mployees	57	100.00%	32	100.00%	17	100.00%	7	100.00%	1	100.00%	10	100.00%	14	100.00%	0	0.00%	0	0.00%	2	100.00%	140
Total of f emj	l number ull-time ployees		656		340		328		119		77		26		89		1		2		14	1,652
(By sul New H Total n new en Total n of full- employ	bsidiaries) ire Ratio= umber of nployees/ umber time yees		8.69%		9.41%		5.18%		5.88%		1.30%		38.46%		15.73%		0.00%		0.00%		14.29%	8.47%

Note:

1. The turnover rates in this table are calculated based on the number of people employed on 31 December 2023. The data in this table is rounded to two decimal places.

2. Internal transfers within the group are not counted as resignations.

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Employees Education and Training

The Averaged Training Hours of TSRC Employees and Resources Invested in 2023 (by Subsidiaries and Gender)

	Category	Unit	TSRC	Shen Hua Chemical	Nantong Industries	TSRC-UBE	Shanghai Industries	TSRC (Vietnam) Company Limited	TSRC Specialty Materials LLC	TSRC USA	POLYBUS	TSRC (Lux.)	TSRC Group
	(Male)Total training hours of permanent full- time employees	Hours	20,635	39,796	32,714	12,124	1,234	414	3,010	0	36	92	110,055
	(Female)Total training hours of permanent full- time employees	Hours	4,045	1,905	1,974	1,120	584	564	568	0	0	224	10,984
	Total training hours of permanent full-time employees	Hours	24,680	41,701	34,688	13,244	1,818	978	3,578	0	36	316	121,038
	(Male) Number of permanent full-time employees	Persons	546	299	294	97	55	12	67	1	2	7	1,380
Gender	(Female) Number of permanent full-time employees	Persons	110	41	34	22	22	14	22	0	0	7	272
	Number of permanent full-time employees	Persons	656	340	328	119	77	26	89	1	2	14	1,652
	(Male) Averaged training hours of permanent full- time employees	Hrs/ Person	37.79	133.10	111.27	124.99	22.44	34.50	44.93	0.00	18.00	13.14	79.75
	(Female) Averaged training hours of permanent full-time employees	Hrs/ Person	36.77	46.46	58.06	50.91	26.55	40.29	25.82	N/A	N/A	32.00	40.38
	Averaged training hours of permanent full-time employees	Hrs/ Person	37.62	122.65	105.76	111.29	23.61	37.62	40.20	0.00	18.00	22.57	73.27

Note:

1. In 2023, there were 1,652 permanent employees and 1 temporary employee. The temporary employee was a visually impaired masseur, who was a full-time employee of TSRC. However, due to the nature of his/her work, he/she was not included in the calculation of the number and hours of education and training for the TSRC Group's employees.

2. The number of permanent full-time employees in this table is calculated as number of people employed on 31 December 2023.

3. The averaged training hours per employee = Total training hours of all employees/ total number of permanent full-time employees. The data in this table is rounded to two decimal places.

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The Averaged Training Hours of TSRC Employees and Resources Invested in 2023 (by Subsidiaries and Employee Category)

	Category	Unit	TSRC	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 training hours of Senior Management	Hours	693	68	59	55	0	0	41	0	0	19	935
	Total training hours of Mid/ Entry Level	Hours	2,803	4,318	1,405	971	649	85	647	0	11	0	10,889
	Total training hours of Indirect Employees	Hours	9,302	8,865	5,875	1,783	783	455	1,490	0	25	297	28,875
	Total training hours of Direct Employees	Hours	11,881	28,451	27,349	10,435	386	438	1,400	0	0	0	80,340
	Total training hours of permanent full-time employees	Hours	24,680	41,701	34,688	13,244	1,818	978	3,578	0	36	316	121,038
	Number of Senior Management	Persons	25	1	1	1	0	0	2	1	0	1	32
	Number of Mid/Entry Level	Persons	63	29	22	10	15	2	15	0	1	1	158
Employee Category	Number of Indirect Employees	Persons	260	89	85	32	39	16	44	0	1	12	578
	Number of Direct Employees	Persons	308	221	220	76	23	8	28	0	0	0	884
	Number of permanent full- time employees	Persons	656	340	328	119	77	26	89	1	2	14	1,652
	Averaged training hours of Senior Management	Hours	27.72	67.52	59.00	55.00	0.00	N/A	20.50	N/A	N/A	19.00	29.20
	Averaged training hours of Mid/Entry Level	Hours	44.49	148.88	63.86	97.10	43.27	42.50	43.13	N/A	11.00	N/A	68.92
	Averaged training hours of Indirect Employees	Hours	35.78	99.60	69.12	55.72	20.08	28.44	33.86	N/A	25.00	24.75	49.96
	Averaged training hours of Mid/Entry Direct Employees	Hours	38.57	128.74	124.31	137.30	16.78	54.75	50.00	N/A	N/A	N/A	90.88
	Averaged training hours of permanent full-time employees	Hrs/ Person	37.62	122.65	105.76	111.13	23.61	37.62	40.19	0.00	18.00	22.57	73.27

Note:

1. In 2023, there were 1,652 permanent employees and 1 temporary employee. The temporary employee was a visually impaired masseur, who was a full-time employee of TSRC. However, due to the nature of his/her work, he/she was not included in the calculation of the number and hours of education and training for the TSRC Group's employees.

2. The number of permanent full-time employees in this table is calculated as number of people employed on 31 December 2023.

3. The averaged training hours per employee = Total training hours of all employees/ total number of permanent full-time employees. The data in this table is rounded to two decimal places.

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Performance Evaluation

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

		TS	SRC	Shei Chei	n Hua mical	Nan Indu	ntong stries	TSR	C-UBE	Shar Indu	nghai stries	TSRC (Com Lin	Vietnam) npany nited	TSRC S Materi	pecialty als LLC	TSRC	(USA)	Pol	ybus	TS (Lu	RC ıx.)	TSRC	Group
		Number of employees	Percentage	Number of employees	Percentage	Number of employees	Percentage	Number of employees	Percentage	Number of employees	Percentage	Number of employees	Percentage	Number of employees	Percentage	Number of employees	Percentage	Number of employees	Percentage	Number of employees	Percentage	Number of employees	Percentage
	Senior Management	25	3.81%	1	0.29%	1	0.30%	1	0.84%	0	0.00%	0	0.00%	2	2.25%	1	1.12%	0	0.00%	1	7.14%	32	1.88%
Employee	Mid/Entry Level	63	9.60%	29	8.53%	22	6.71%	10	8.40%	15	19.48%	2	7.69%	15	16.85%	0	0.00%	1	50.00%	1	7.14%	158	9.56%
Category	Indirect Employees	260	39.63%	89	26.18%	85	25.91%	32	26.89%	39	50.65%	16	61.54%	44	49.44%	0	0.00%	1	50.00%	12	85.71%	578	34.99%
	Direct Employees	308	46.95%	221	65.00%	220	67.07%	76	63.87%	23	29.87%	8	30.77%	28	31.46%	0	0.00%	0	0.00%	0	0.00%	884	53.51%
Conder	Male	546	83.23%	299	87.94%	294	89.63%	97	81.51%	55	71.43%	12	46.15%	67	75.28%	1	100.00%	2	100.00%	7	50.00%	1,380	83.54%
Gender	Female	110	16.77%	41	12.06%	34	10.37%	22	18.49%	22	28.57%	14	53.85%	22	24.72%	0	0.00%	0	0.00%	7	50.00%	272	16.46%
Number o Receiving Re	of Employees Performance eviews	656	100.00%	340	100.00%	328	100.00%	119	100.00%	77	100.00%	26	100.00%	89	100.00%	1	100.00%	2	100.00%	14	100.00%		1,652
Number of full-time	of permanent e employees		656		340		328		119		77		26		89		1		2		14		1,652

Note:

1. In 2023, there were 1,652 permanent employees and 1 temporary employee. The temporary employee was a visually impaired masseur, who was a full-time employee of TSRC. However, due to the nature of his/her work, he/she was not included in the calculation of the number and percentage of employees receiving performance reviews for the TSRC Group's employees.

2. 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.

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Occupational Health and Safety

2020-2023 TSRC Occupational Health and Safety Management System Auditing in Accordance with the ISO 45001 (by Subsidiaries)

			TSRC Co (only TSRC Kao TSRC Gange	orporation ohsiung Factory, shan Factory)	Shen H	ua Chemical	Nanton	g Industries	TS	RC-UBE	Shangh	ai Industries
			Number of employees	As a percentage of all employees based in the site	Number of employees	As a percentage of all employees based in the site	Number of employees	As a percentage of all employees based in the site	Number of employees	As a percentage of all employees based in the site	Number of employees	As a percentage of all employees based in the site
	Number of employees	TSRC employees	496	83%	291	100%	309	100%	109	100%	76	100%
2020	being internally audited	Non-employee workers	7	1%	70	100%	105	100%	41	100%	12	100%
2020	Number of employees	TSRC employees	543	90%	291	100%	309	100%	109	100%	76	100%
	being externally audited	Non-employee workers	10	2%	70	100%	0	0%	0	0%	12	100%
	Number of employees	TSRC employees	506	91%	299	100%	310	100%	109	100%	73	95%
2021	being internally audited	Non-employee workers	5	1%	70	100%	105	100%	41	100%	4	100%
2021	Number of employees	TSRC employees	553	91%	299	100%	310	100%	109	100%	59	77%
	being externally audited	Non-employee workers	10	2%	70	100%	0	0%	41	100%	4	100%
	Number of employees	TSRC employees	490	76%	298	100%	320	100%	117	100%	74	97%
2022	being internally audited	Non-employee workers	90	14%	79	100%	105	100%	38	100%	8	100%
2022	Number of employees	TSRC employees	450	70%	298	100%	320	100%	117	100%	74	97%
	being externally audited	Non-employee workers	90	14%	79	100%	0	0%	0	0%	8	100%
	Number of employees	TSRC employees	563	98%	340	100%	328	100%	119	100%	77	100%
2023	being internally audited	Non-employee workers	94	100%	72	100%	105	100%	40	100%	7	100%
2023	Number of employees	TSRC employees	563	98%	340	100%	328	100%	119	100%	77	100%
	being externally audited	Non-employee workers	94	100%	72	100%	105	100%	40	100%	7	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 two holding subsidiaries Polybus and TSRC (Lux.) that mainly engage in trading business, and the Global Corporate Headquarters that mainly engage in office affairs, do not apply to occupational health and safety management system audits, and are therefore omitted from the table.

2. The number of people at each subsidiaries 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 number of employees as of December 31, 2023, as calculated.

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2023 Occupational Injuries and Illness of TSRC Non-employee Workers (by Subsidiaries)

Occupationa	al Injuries an Employee	d Illness of TSRC es	Unit	TSRC Kaohsiung Factory	TSRC Gangshan Factory	Global Business Headquarter	TSRC Corporation	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 working	hours of non	-employee workers	hours	480,890	14,263	576	495,729	266,536	250,011	100,644	26,467	35,140	109,618	N/A	N/A	N/A	1,284,145
Occupational		Number of recordable occupational injury cases among non- employee workers	Cases	4	0	0	4	2	0	0	0	0	1	N/A	N/A	N/A	7
Injury Rate (Total recordable incidence rate, TRIR)	Non- employee workers	Number of non-employee workers involved in the recordable occupational injury cases	People	4	0	0	4	2	0	0	0	0	1	N/A	N/A	N/A	7
		Total recordable incidence rate (TRIR)		1.66	0.00	0.00	1.61	1.50	0.00	0.00	0.00	0.00	1.82	N/A	N/A	N/A	1.09
		Number of severe recordable occupational injury cases among non- employee workers	Cases	1	0	0	1	0	0	0	0	0	0	N/A	N/A	N/A	1
Severe Occupational Injury (excluding fatalities)	Non- employee workers	Number of non- employee workers involved in the severe recordable occupational injury cases	people	1	0	0	1	0	0	0	0	0	0	N/A	N/A	N/A	1
		The severe occupational injury rate of nonemployees		0.42	0.00	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	N/A	N/A	N/A	0.16

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.

The total working hours of non-employee workers at TSRC Group is the sum of the working hours at the TSRC Kaohsiung and Gangshan plant, and the Global Business Headquarters. The Total Recordable Incidence Rate (TRIR) is calculated as the total number of recordable occupational injuries among non-employee workers at the TSRC Kaohsiung and Gangshan plant, and the Global Business Headquarters, divided by the total working hours of nonemployee workers, multiplied by 200,000.

3. The Total Recordable Incidence Rate (TRIR) is calculated as "Total number of recordable occupational injuries divided by the total working hours, multiplied by 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).

4. The Severe Occupational Injury Rate is calculated as "Number of severe recordable occupational injury cases divided by the total working hours, multiplied by 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 his pre-injury state of health within six months.

5. In 2023, there were no reports of occupational fatalities, occupational illnesses, occupational disease fatalities, or work-related deaths among non-employee workers at TSRC Group. However, Polybus and TSRC (Lux) did not employ any non-employee workers, so the data is marked as N/A.

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2023 Occupational Injuries and Illness of TSRC Employees (by Subsidiaries)

Occupation	nal Injuries a Employe	nd Illness of TSRC res	Unit	TSRC Kaohsiung Factory	TSRC Gangshan Factory	Global Business Headquarter	TSRC Corporation	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 w	orking hours	of employees	hours	986,229	139,312	147,374	1,272,915	784,391	752,667	272,522	167,992	57,599	159,588	1,936	3,792	25,112	3,498,514
Total		Number of recordable occupational injury cases among employees	Cases	3	0	0	3	1	0	1	1	0	0	0	0	0	6
Total recordable incidence rate (TRIR)	TSRC Employees	Number of employees involved in the recordable occupational injury cases	Persons	3	0	0	3	1	0	1	1	0	0	0	0	0	6
recordable incidence E rate (TRIR)		Total recordable incidence rate (TRIR)		0.61	0.00	0.00	0.47	0.25	0.00	0.73	1.19	0.00	0.00	0.00	0.00	0.00	0.34

Note:

1. The employee in this table refers to permanent full-time employees. 2023 TSRC employs one full-time temporary employee as visually impaired masseur, and no permanent part-time employees and employees without guaranteed hours.

The total working hours of TSRC employees are the sum of the working hours of employees at the TSRC Kaohsiung and Gangshan Factory, and the Global Business Headquarters. The Total Recordable Incidence Rate (TRIR) is calculated as the total number of recordable occupational injuries among TSRC Kaohsiung and Gangshan Factory, and the Global Business Headquarters employees divided by the total working hours and multiplied by 200,000.

3. The Total Recordable Incidence Rate (TRIR) is calculated as "Total number of recordable occupational injuries divided by the total working hours, multiplied by 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).

4. In 2023, there were no reports of occupational fatalities, severe occupational injuries, occupational illnesses, occupational disease fatalities, or work-related deaths among employees.

7 TSRC Process Safety Incidents, Process Safety Total Incident Rate, and Process Safety Incident Severity Rate in 2023

	TSRC Kaohsiung Factory	TSRC Gangshan Factory	Global Business Headquarter	TSRC Corporation	Shen Hua Chemical	Nantong Industries	TSRC-UBE	Shanghai Industries	TSRC (Vietnam) Company Limited	TSRC Specialty Materials LLC	Polybus	TSRC (Lux.)
Process safety incidents count (PSIC)	0	0	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	0	0
Process safety incident severity rate (PSISR)	0	0	0	0	0	0	0	0	0	0	0	0

Note:

1. The data of TSRC Corporation is the sum of TSRC Kaohsiung Factory, Gangshan Factory, and Global Business Headquarters.

2. TSRC Group did not have any transportation accidents during production in 2023.

3. 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.

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Welfare for Employees

2020-2023 Employee Benefits Expenses (by Subsidiaries)

Year	TSRC Corporation (Includes Global Business Headquarter, TSRC Kaohsiung Factory, TSRC Gangshan Factory)	Shen Hua Chemical	Nantong Industries	TSRC-UBE	Shanghai Industries	TSRC (Vietnam) Company Limited	TSRC Specialty Materials LLC	POLYBUS	TSRC (Lux.)	TSRC (USA)	Total
2020	152,477,282	69,183,733	64,912,858	24,629,616	15,762,831	3,947,302	57,965,744	542,952	8,310,983	293,550	397,733,301
2021	160,161,520	95,792,433	95,783,717	36,287,585	22,992,036	5,129,351	47,553,067	559,880	7,928,722	277,949	472,188,311
2022	179,880,832	117,431,497	111,366,012	42,904,477	26,643,185	4,791,076	54,852,400	611,817	9,948,281	297,979	548,429,577
2023	177,090,570	134,395,311	122,907,723	47,747,693	28,103,661	3,692,955	58,649,866	703,886	8,853,754	169,939	582,145,419

Note:

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

2. The exchange rate is the cumulative average exchange rate of the company as of the end of 2023. USD:TWD = 1:31.1575 CNY:TWD = 1:4.3967 VND:TWD = 1:0.00131 EUR:TWD = 1:33.6896 SGD:TWD = 1:34.6994.

Labor-Management Communication

2022-2023 Number and Percentage of Employees Covered by the Collective Bargaining Agreement at TSRC Group (by Subsidiaries)

N/A	(Unit: number of people, %)	TSRC Corporation	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 the collective bargaining agreement	481	308	322	117	76	24	N/A	N/A	N/A
2022	Percentage of permanent full-time employees covered by the collective bargaining agreement	100.00%	100.00%	100.00%	100.00%	100.00%	80.00%	N/A	N/A	N/A
2022	Number of permanent full-time employees covered by the collective bargaining agreement	656	340	328	119	77	26	N/A	N/A	N/A
2023	Percentage of permanent full-time employees covered by the collective bargaining agreement	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	N/A	N/A	N/A

Note:

1. The percentage of employees covered by the collective bargaining = the 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.

2. TSRC Specialty Materials LLC, Polybus, TSRC(Lux.) do not have labor unions, so the data is marked as N/A.

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GRI Standards Index

General Disclosures

• Statement of use: TSRC has reported in accordance with the GRI Standards for the period from 1st January to 31st December 2023.	• GRI 1 used: GRI 1: Foundation 2021.	Applicable GRI Sector Standard(s): None.
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	(1) Amount of bazardous waste generated		2.3.1 Waste ManagementWeight and Percentage of Hazardous Waste Recycled and Disposed		• KPMG Assurance (ISAE		
RT-CH-150a.1.	(2) percentage recycled	Metric tonnes (t), %	Appendix Sustainability Data 2021-2023 Recycling and Treatment Weight and Percentage of General Industrial Waste and Hazardous Industrial Waste (by Subsidiaries)	159	 SGS AA1000 Type II Moderate 		
	Discussion of engagement processes to		3.3.1 Impact on the Society		SGS AA1000 Type II		
RI-CH-210a.1.	with community interests	n/a	3.3.2 Industry-Academic Collaboration	108	Moderate		
	(1) Total recordable incident rate (TRIR) and	07	Appendix Sustainability Data 2023 Occupational Injuries and Illness of TSRC Employees (by Subsidiaries)		 KPMG Assurance (ISAE 3000) 		
KI-GH-320a.T.	(2) fatality rate for (a) direct employees and (b) contract employees	%	Appendix Sustainability Data 2023 Occupational Injuries and Illness of TSRC Non-employee Workers (by Subsidiaries)	172	 SGS AA1000 Type II Moderate 		
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	94	SGS AA1000 Type II Moderate		
RT-CH-410a.1.	Revenue from products designed for use phase resource efficiency	Presentation currency	Appendix Sustainability Data 2020-2023 Revenue from Products with Environmental Contribution (Unit: thousands of NT\$)	163	SGS AA1000 Type II Moderate		
RT-CH-410b.1.	(1) Percentage of products that contain Globally Harmonised 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	%	 Appendix Sustainability Data 2020-2023 The Sale of Products that Contain Globally Harmonized System of Classification and Labeling of Chemicals (GHS) Substances 	158	SGS AA1000 Type II Moderate		

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SASB Code	Metric	Unit of Measure	Chapter	Pages	External Assurance and Verification	
	Discussion of strategy to (1) manage chemicals of concern and (2) develop	2/2	2.2.1 Lifecycle Design		SGS AA1000 Type II Moderate	
R1-CH-410b.2.	alternatives with reduced human or environmental impact	n/a	2.2.2 Product Stewardship and Chemical Management		SGS AA1000 Type II Moderate	
RT-CH-410c.1.	Percentage of products by revenue that contain genetically modified organisms (GMOs)	%	TSRC did not produce products that contain GMOs	n/a	SGS AA1000 Type II Moderate	
DT-CH-530a 1	Discussion of corporate positions related to government regulations or policy proposals	p/2	4.1.2 Risk Management		SGS AA1000 Type II	
K I-01 I-330d. I.	that address environmental and social factors affecting the industry	11/ d	Appendix Climate-Related Risks and TSRC Countermeasures 	148	Moderate	
RT-CH-540a.1.	Process Safety Incidents Count (PSIC), Process Safety Total Incident Rate (PSTIR), and Process Safety Incident Severity Rate (PSISR)	%	 Appendix Sustainability Data TSRC Process safety Incidents, Process Safety Total Incident Rate, and Process Safety Incident Severity Rate in 2023 	173	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 2023 	173	SGS AA1000 Type II Moderate	
RT-CH-000.A	Production by reportable segment	Cubic metres (m³) or metric tonnes (t)	Appendix Sustainability Data 2020-2023 Production Volume (by Subsidiaries)	163	SGS AA1000 Type II Moderate	

Company Information About TSRC

Independent Third Party Assurance and Verification Statement

ASSURANCE STATEMENT

SGS TAIWAN LTD.'S REPORT ON SUSTAINABILITY ACTIVITIES IN THE TSRC CORPORATION'S SUSTAINABILITY REPORT FOR 2023

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 2023 (hereinafter referred to as the Sustainability Report). The scope of assurance is based on the SGS Sustainability Report Assurance methodology and AA1000 Assurance Standard v3 Type 2 Moderate level to assess whether the text and data in accompanying tables contained in the report and complies with the GRI Standards, AA1000 Accountability Principles (2018) and SASB (CHEMICALS) during on-site assurance (2024/03/13~2024/04/24) in TSRC headquarter and Kaohsiung Factory. The boundary of this report includes TSRC Taiwan and oversea operational and production sites' specific performance data included the sampled text, and data in accompanying tables, contained in the report presented. The assurance process did not include the evaluation of specific performance information outside the scope, such as climate-related financial disclosures (TCFD)

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 2023 and its presentation are the responsibility of the directors or governing body and management of TSRC. SGS has not been involved in the preparation of any of the material included in the Sustainability Report.

Our responsibility is to express an opinion on the report content within the scope of assurance with the intention to inform all TSRC's stakeholders.

ASSURANCE STANDARDS, TYPE AND LEVEL OF ASSURANCE

The SGS ESG & Sustainability Report Assurance protocols used to conduct assurance are based upon internationally recognized assurance guidance and standards including the principles of reporting process contained within the Global Reporting Initiative Sustainability Reporting Standards (GRI Standards) GRI 1: Foundation 2021 for report guality, GRI 2 General Disclosure 2021 for organization's reporting practices and other organizational detail, GRI 3 2021 for organization's process of determining material topics, its list of material topics and how to manages each topic, and the guidance on levels of assurance contained within the AA1000 series of standards and/or ISAE3000.

The assurance of this report has been conducted according to the following Assurance Standards:

Assurance Standard Options	Level of Assurance	
А	SGS ESG & SRA Assurance Protocols (based on GRI Principles and guidance in AA1000)	n/a
В	AA1000AS v3 Type 2 (AA1000AP Evaluation plus evaluation of Specified Performance Information)	Moderate

SCOPE OF ASSURANCE AND REPORTING CRITERIA

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

Reporting Criteria Options

Chapter 1

- 1 None selected (Specified Performance Information as detailed in proposal)
- 2 GRI Standards (in Accordance with)
- 3 AA1000 Accountability Principles (2018)
- 4 SASB (CHEMICALS)
- The evaluation includes AA1000 Assurance Standard v3 Type 2 evaluation of the report content and supporting management systems against the AA1000 Accountability Principles (2018).
- The evaluation of the reliability and quality of specified sustainability performance information in TSRC's Sustainability Report is limited to determined material topics or 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.
- The evaluation of the report against the requirements of GRI Standards, includes GRI 1, GRI 2, GRI 3, 200, 300 and 400 series claimed in the GRI content index as material and is conducted in accordance with the standards
- The evaluation of the report against the SASB Disclosures and Metrics included in the SASB Standards, CHEMICALS, VERSION 2023-12 and conducted alongside an evaluation of accuracy assurance at moderate level of scrutiny

ASSURANCE METHODOLOGY

The assurance comprised a combination of pre-assurance research, interviews with relevant employees, superintendents, Sustainability committee members and the senior management in Taiwan; documentation and record review and validation with external bodies and/or stakeholders where relevant.

LIMITATIONS AND MITIGATION

Financial data drawn directly from independently audited financial accounts and Task Force on Climate-related Financial Disclosures (TCFD) related disclosures have not been checked back to source as part of this assurance process

STATEMENT OF INDEPENDENCE AND COMPETENCE

The SGS Group of companies is the world leader in inspection, testing and assurance, 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 organisation, its subsidiaries and stakeholders.

The assurance team was assembled based on their knowledge, experience and qualifications for this assignment, and comprised auditors registered with ISO 26000, ISO 20121, ISO 50001, SA8000, RBA, QMS, EMS, SMS, GPMS, CFP, WFP, GHG Verification and GHG Validation Lead Auditors and experience on the SRA Assurance service provisions

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ASSURANCE/VERIFICATION OPINION

On the basis of the methodology described and the assurance work performed, we are satisfied that the disclosure with inclusivity, materiality, responsiveness, and impact information in the scope of assurance is reliable, has been fairly stated and has been prepared, in all material respects, in accordance with the reporting criteria. We believe that the organization has chosen an appropriate level of assurance for this stage in their reporting.

AA1000 ACCOUNTABILITY PRINCIPLES (2018) CONCLUSIONS, FINDINGS AND RECOMMENDATIONS

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, ESG experts, and other stakeholders are implemented to underpin the organization's understanding of stakeholder concerns. For future reporting, TSRC may proactively consider having more direct two-ways involvement of stakeholders during future engagement.

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

The report includes coverage given to stakeholder engagement and channels for stakeholder feedback. Impact

TSRC has demonstrated a process on identify and fairly represented impacts that encompass a range of environmental, social and governance topics from wide range of sources, such as activities, policies, programs, decisions and products and services, as well as any related performance. Measurement and evaluation of its impacts related to material topic were in place at target setting with combination of qualitative and quantitative measurements.

GLOBAL REPORTING INITIATIVE REPORTING STANDARDS CONCLUSIONS, FINDINGS AND RECOMMENDATIONS

The report, TSRC's Sustainability Report of 2023, is adequately in accordance with the GRI Universal Standards 2021and complies with the requirements set out in section 3 of GRI 1 Foundation 2021, where the significant impacts on the economy, environment, and people, including impacts on their human rights are assessed and disclosed following the guidance defined in GRI 3: Material Topic 2021, and the relevant 200/300/400 series Topic Standard related to Material Topic have been disclosed. The report has properly disclosed information related to TSRC's contributions to sustainable development. For future reporting, it is recommended to have more descriptions on the trend of quantitative information of material topics as well as the identified impact.

SASB CONCLUSIONS, FINDINGS AND RECOMMENDATIONS

TSRC has conformed with SASB Standards, CHEMICALS, VERSION 2023-12 to disclose information of material topics that are vital for enterprise value creation. The reporting boundaries of the disclose information correspond to the financial data reported in TSRC's audited consolidated financial statements, excluding paper companies (subsidiaries with no actual operations). TSRC used SASB accounting and activity metrics to assess and manage the topic-related risks and opportunities, where relevant quantitative information was assessed for its accuracy and completeness to support the comparability of the data reported. Process to identify, assess, and manage topic-related risks and opportunities were integrated into TSRC's overall management process.

Signed: For and on behalf of SGS Taiwan Ltd.





Stephen Pao Business Assurance Director Taipei, Taiwan 20 May, 2024 <u>WWW.SGS.COM</u>

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Chapter 2 Environmental

Chapter 4

Governance



告佚建業解合會計師重務府 KPMG

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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 2023 Sustainability Report of TSRC ("the Report") for the year ended December 31, 2023.

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.

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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, 2023 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 partners on the assurance resulting in this independent auditors' report is Yu-Ting Huang.

CI WIO

Taipei, Taiwan (Republic of China) April 30, 2024

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 lenguage limited assurance report and the selected information, the Chinese version shall prevail. Г -

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Appendix I: Summary of the Subject Matter Information

No.	Section	Page	Subject Matter Information	Criteria	SASB
	2.1.2 Energy Management	P.53	Optimizing Process Operations TSRC promotes the optimization of process operation to achieve energy saving 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.	Measures and achievements in optimizing operations, optimizing utility systems, and investing in high- efficiency equipment by TSRC	SASB Chemicals RT-CH-130a.1 (1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable, (4) total self- generated energy
		P.56	Improving Energy Efficiency TSRC refers to the ISO 50001 energy management system structure and adopts the PDCA model to periodically analyze energy use and consumption by 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.	Measures in enhancing energy efficiency by TSRC	
1	Appendix_ Energy Management	P.157	 2023 TSRC Energy Consumption Unit: GJ Non-renewable energy Bituminous coal: 0.00 Fuel oil: 0.00 Plant diesel: 9,936.36 Natural gas: 1,815,902.91 Gasoline: 1,530.97 Recycled butadiene: 76,259.51 Purchased electricity: 866,128.46 Purchased electricity: 866,128.46 Purchased electricity: 36,000.60 Self-generated electricity: 36,000.60 Self-generated electricity: 2,077.38 Subtotal: 38,077.98 Total energy consumption: 5,042,279.98 Self-generated electricity used from the power grid (%): 87.81% Percentage of electricity from the grid out of total energy consumption (%): 17.18% Note: The 2023 data covers the Global Business Headquarters within the reporting boundary, two 	Details on energy usage by TSRC	

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Io. Correspondin Section	ng Page	Subject Matter Information	Reporting Criteria	SASB
		factories (Kaohsiung and Gangshan), 6		
		subsidiaries and 2 holding companies, Polybus		
		and TSRC (Lux.), which mainly engaged in		
		trading activities.		
		- The TSRC (Lux.) data is based on the sum of the		
		electricity used on the LEO online inquiry		
		platform (launched on October 16, 2023) and the		
		annual settlement payment notice, which is the		
		annual electricity consumption. However, the data		
		from April 19, 2023 to before the launch of the		
		inquiry platform is based on the average value		
		from January to April 2023, and the actual data		
		will be available at the end of April 2024.		
		 The energy conversion factors are based on the 		
		"GHG Emission Inventory Guideline (non-		
		official translation)" published by the		
		Environmental Protection Administration of		
		I alwan. The data is calculated based on the		
		Lower meating values (LHV) of the fuels. The		
		results are rounded to the second decimal place		
		Organization Total energy consumption the		
		 Organization Total energy consumption— the internal anaroy consumption— non-renewable 		
		anergy + renewable energy		
		 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))).		
		- Percentage of renewable energy (%) = (Purchased		
		electricity (Renewable energy) + Self-generated		
		electricity (renewable energy)) / Total energy		
		consumption.		
		- Percentage of electricity from the grid out of total		
		energy consumption (%) = Purchased electricity		
		(non-renewable energy) / Total energy		
		consumption.		
		 Heating value conversion factor of each energy 		
		use refers to 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 based on		
		/,500 Kcal/L calculation. For steam, except for		
		stendard conversion factor of 2.26 GI for the best		
		standard conversion factor of 2.20 GJ for the heat		
		atmosphere pressure is used. Shen Hua Chemical		
		autospiere pressure is used. Siteri rud Chemical		
		and realition industries use a conversion factor provided by their supplier which is 2 96626 GI		
		for one ton of water		
		- Starting from 2021 all manufacturing factories of		
		TSRC no longer use bituminous coal and fuel oil		

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No. Corresponding Section	Page	Subject Matter Information	Reporting Criteria	SASB	No.	Corresponding Section	Page	
		as energy sources.						
2 Appendix_ Water Resources Management	P.161	 2023 Water Withdrawal, Discharge, and Cansumption (by Water-stressed Acrea) Unit: thousand cubic meters - thousand tons Regions with Extreme-High Water Stress Shanghai Industries Fresh water withdrawal: 9.44 Groundwater michardwal: 0.00 Consumption of purchased steam: 0.00 Water stress - thousand tons Regions with High Water Stress TSRC - Kaohsing Factory Fresh water withdrawal: 1.57.53 Groundwater recycled: 0.00 Water withdrawal: 1.57.53 Groundwater recycled: 0.00 Water withdrawal: 1.57.53 Groundwater recycled: 0.00 Water withdrawal: 1.57.73 Consumption of purchased steam: 0.22 Water withdrawal: 1.57.73 Groundwater recycled: 0.00 Water discharge: 1.032.41 Water Gangban Factory Fresh water withdrawal: 0.00 Consumption of purchased steam: 0.00 Water discharge: 1.032.41 Water consumption: 0.00 Consumption of purchased steam: 0.00 Water discharge: 1.032.41 Water consumption: 0.01 Pacingshan Factory Fresh water withdrawal: 0.00 Consumption of purchased steam: 0.00 Water discharge: 1.88 Water consumption: 0.91 Regions with Moderate to High Water Stress TSRC(LUX) Fresh water withdrawal: 0.00 Consumption of purchased steam: 0.00 Water starge: 0.04 Water consumption: 0.128 Mater consumption: 0.01 Pachased reclaimed water: 0.00 Water steamset: 0.00 Water steamset: 0.00 Water asge: 0.04 Water consumption: 0.01 TSRC Specially Materials LLC (office) Fresh water withdrawal: 1.4 	Details on Water resource management by TSRC	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				A A

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ding	Page	Subject Matter Information	Reporting Criteria	SASB
		Groundwater withdrawal: 0.00 Consumption of purchased steam; 0.00 Wastewater recycled: 0.00 Purchased reclaimed water: 0.00 Water wasge: 1.34 Water discharge: 1.34 Water consumption: 0.00		
		 Regions with Low to Moderate Water Stress TSRC (Vietam) Company Limited Fresh water withdrawal: 6.05 Groundwater withdrawal: 0.00 Consumption of purchased steam: 0.00 Water water recycled: 0.00 Purchased reclaimed water: 0.00 Water usage: 6.05 Water discharge: 1.19 Water consumption: 4.86 		
		Regions With Low Water Stress - TSRC-Global Business Headquarters +Fresh water withdrawal: 2.24 •Groundwater withdrawal: 0.00 •Consumption of purchased steam: 0.00 •Wastewater recycled: 0.00 •Water utage: 2.24 •Water discharge: 2.24 •Water discharge: 2.24 •Water consumption: 0.00		
		Shen Hua Chemical Fresh water withdrawa! 908.00 Groundwater withdrawa! 0.00 Consumption of purchased steam: 183.65 Wastewater recycled: 89.71 Purchased reclaimed water 0.00 Water usage: 1,181.36 Water discharge: 876.44 Water consumption: 304.92		
		Nantong Industries Fresh water withdrawal: 327.15 Groundwater withdrawal: 0.00 Consumption of purchased steam: 291.59 Wastewater recycled: 165.59 Purchased reclaimed water: 0.00 Water usage: 784.33 Water discharge: 265.86 Water consumption: 518.47		

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- Water consumption = Water usage - Water ~ 6 ~

- The fresh water withdrawal comes from fresh water (≤ 1,000 mg/L total dissolved solids) supplied by the local water company. TSRC Kaohsiung Factory also used groundwater. - Water usage = Fresh water withdrawal + Groundwater withdrawal + Consumption of purchased steam + Wastewater recycled + Purchased reclaimed water.

Subject Matter Information

 Fresh water withdrawal: 264.73 Groundwater withdrawal: 0.00 Consumption of purchased steam: 225.97 •Wastewater recycled: 157.57 •Purchased reclaimed water: 0.00 •Water usage: 648.27 •Water discharge: 244.97 •Water consumption: 403.30 - TSRC Specialty Materials LLC (factory) Fresh water withdrawal: 83.86 ·Groundwater withdrawal: 0.00 Consumption of purchased steam: 125.09 •Wastewater recycled: 0.00 •Purchased reclaimed water: 212.48 •Water usage: 421.43 •Water discharge: 357.63 •Water consumption: 63.80

- Polybus

> Note:

discharge.

•Fresh water withdrawal: 0.02 •Groundwater withdrawal: 0.00 ·Consumption of purchased steam: 0.00 •Wastewater recycled: 0.00 •Purchased reclaimed water: 0.00 •Water usage: 0.02 •Water discharge: 0.02 •Water consumption: 0.00 > TSRC Group Total

•Fresh water withdrawal: 3,163.19 •Groundwater withdrawal: 6.77 Consumption of purchased steam: 826.52 •Wastewater recycled: 918.76 •Purchased reclaimed water: 212.48 •Water usage: 5,127.72 •Water discharge: 2,793.46 •Water consumption: 2,334.26

Reporting Criteria

SASB

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Corresponding

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No.	Corresponding Section	Page	Subject Matter Information	Reporting Criteria	SASB
			- TSRC (LUX) is using 2022 data as 2023 water		
			use data is not yet available.		
			- The purchased steam is also used as one of the		
			sources of process water after the purpose of heat		
			exchange. The evaporation of purchased steam is		
			not considered.		
			- The data in this table is rounded to two decimal		
			places.		
			 Regarding water resource risk: 		
			· The water resource risk assessment results in		
			this table are from the World Resource Institute		
			(WRI) Aqueduct county-level data. Based on		
			county- and city-level, the water resource risks at		
			Shen Hua Chemical and TSRC-UBE and		
			Nantong Industries (Jiangsu Province, China), the		
			TSRC Specialty Materials LLC factory		
			(Louisiana State, the United States) and Polybus		
			(Singapore) has a low water stress risk (<10%),		
			while the TSRC (Vietnam) Co., Ltd.(Pingyang		
			Province in Vietnam) is low to medium risk (10-		
			20%). The holding subsidiary, TSRC (Lux.),		
			located in Luxemburg, mainly engaged in		
			efficient (Terres, the United States) has a		
			moderate to high water recourse rick (20.40 %)		
			Shonohoi Industrias (Shonohoi aity, China) has		
			the extreme-high water stress (>80%) For the		
			Taiwan factories the relevant information is not		
			available on Aqueduct.		
			Regardless of dry or abundant 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.		
			- In 2023, fresh water and groundwater water		
	1		withdrawal in areas with high water stress and		
			extremely high risk (according to local analysis)		
			accounted for 49.73% of the group's total water		
			withdrawal, and water consumption in areas with		
			high water stress and extremely high risk		
			accounted for 44.51% of the group's total water		
			consumption.		
			 2023 Recycling and Treatment Weight and 	 Details on 	SASB Chemicals
	1	1	Percentage of Hazardous industrial waste	Hazardous	RT-CH-150a.1.
	Appendix _	1	Unit: Metric tons	Waste transfer	Amount of
3	Waste	P.160	- TSRC- Kaohsiung Factory	records by	Amount of
	management		 I otal weight of hazardous industrial waste: 	TSRC	nazardous waste
	1		125.67		generated,
	1	1	 Treated by recycling: 0.00 		percentage

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No.	Corresponding Section	Page	Subject Matter Information	Reporting Criteria	SASB
No.	Corresponding Section	Page	Subject Matter Information Percentage of hazardous industrial waste treated by recycling: 0.00% TSRC-Gangshan Factory Treated by recycling: 0.00 Percentage of hazardous industrial waste industrial Total weight of hazardous industrial waste treated by recycling: NA Shen Hua Chemical Total weight of hazardous industrial waste industrial Total weight of hazardous industrial waste i,143.25 Treated by recycling: 170.20 Percentage of hazardous industrial waste treated by recycling: 12.07% Nantong Industris Total weight of hazardous industrial waste industrial Treated by recycling: 26.14 Percentage of hazardous industrial waste: 423.38 Treated by recycling: 9.2 Trated by recycling: 9.2 Percentage of hazardous industrial waste: 244.30 Trated by recycling: 9.2 Percentage of hazardous industrial waste: 37.35 Trated by recycling: 37.21 Percentage of hazardous industrial waste: 37.35 Treated by recycling: 0.00 Percentage of hazardous industrial waste: 37.35 Treated by recycling: 37.21 Percentage of hazardous industrial waste: 37.35 Treated by recycling: 0.00 Percentage of hazardous industrial waste: 37.35 Treated by recycling: 0.00 Percentage of hazardous industrial waste: 37.35 Treated by recycling: 30.21 Percentage of hazardous industrial waste: 37.35 Treated by recycling: 0.00 Percentage of hazardous industrial waste: 37.35 Treated by recycling: 0.00 Percentage of hazardous industrial waste: 37.35 Treated by recycling: 0.00 Percentage of hazardous industrial waste: 37.35 Treated by recycling: 0.00 Percentage of hazardous industrial waste: 37.35 Treated by recycling: 0.00 Percentage of hazardous industrial waste: 37.35 Treated by recycling: 0.00 Percentage of hazardous industrial waste: 37.35 Treated by recycling: 0.00 Percentage of hazardous industrial waste: 37.35 Treated by recycling: 0.00 Percentage of hazardous industrial waste: 37.31 Treated by recycling: 0.00 Percentage of hazardous industrial waste: 37.32 Percentage of hazardous industrial waste: 37.32 Percentage of hazardous industrial waste: 37.31 Treated by re	Reporting Criteria	SASB recycled
			 1,002.17 Treated by recycling: 826.71 Percentage of hazardous industrial waste treated by recycling: 29.50% Notes: 		
			 I fits table only includes factories and subsidiaries 		

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No.	Corresponding Section	Page	Subject Matter Information	Reporting Criteria	SASB
			with manufacturing activities within the reporting		
			boundary. The two trading-based subsidiaries,		
			Polybus and TSRC (Lux.), as well as the office-		
			oriented Global Business Headquarter and TSRC		
			Specialty Materials LLC office, generate only		
			general domestic waste, not industrial waste.		
			 The data source for all factory is the waste 		
			removal and disposal (transfer) records provided		
			by waste treatment manufacturers, rounded to the		
			second decimal place. TSRC Kaohsiung Factory,		
			Gangshan Factory, Nantong Industries, TSRC-		
			UBE, Shen Hua Chemical report to the		
			government waste platform every month, while		
			Shanghai Industries and TSRC (Vietnam) Co.,		
			Ltd. report to the government on an annual basis.		
			I SRC Specialty Materials LLC reports to the		
			government every two years.		
			 Hazardous industrial waste includes: (1) non- 		
			recyclable waste oil, waste liquid, organic waste		
			residue, siudge, waste chemicais, containers		
			containing nazardous substances, etc.; (2)		
			recyclable waste oli, waste packaging materials,		
			waste containers, etc., which are identified		
			compatent authorities:		
			Factory: According to the definition of		
			"Hazardous Industrial waste Recognition		
			Standard" published by Taiwan Environmental		
			Protection Agency		
			 Chinal Shen Hua Chemical, Nantong Industries. 		
			TSRC-UBE, and Shanghai Industries: According		
			to the definition of the hazardous waste list		
			published by the government of China.		
			•[Vietnam] TSRC (Vietnam) Co.,		
			Ltd.:08/2022/ND-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.		
			 2023 Occupational Injuries and Illness of TSRC 	 Details on 	SASB Chemical
			Employees	performance	RT-CH-320a.1.
			-TSRC-Kaohsiung Factory	of	0.7.1
	Appendix_		 Total working hours of employees: 986,229 	occupational	(1) Total
4	Occupational	P 173	 Number of recordable occupational injury cases 	health and	recordable
-	Health and	1.1/3	among employees: 3	safety of	incident rate
	Safety		 Number of employees involved in the 	TSRC	(TRIR) and (2)
	1		recordable occupational injury cases: 3	employees	fatality rate for
	1		 Total recordable incidence rate (TRIR): 0.61 	empioyees	(a) direct
	1	1	- I SRC-Gangshan Factory	1	1

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Reporting Criteria

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No.	Corresponding Section	Page	Subject Matter Information	Reporting Criteria	SASB		No.	Corresponding Section	Page	Subject Matter Information
			 Total working hours of employees: 139,312 		employees and					 Number of recordable occupational injury cases
			 Number of recordable occupational injury cases 		(b) contract					among employees: 0
			among employees: 0		employeee					 Number of employees involved in the
			 Number of employees involved in the 		employees					recordable occupational injury cases: 0
			recordable occupational injury cases: 0							 Total recordable incidence rate (TRIR): 0.00
			 Total recordable incidence rate (TRIR): 0.00 							-TSRC Specialty Materials LLC
			-Global Business Headquarter							 Total working hours of employees: 159,588
			Total working hours of employees: 147.374							 Number of recordable occupational injury cases
			•Number of recordable occupational injury cases							among employees: 0
			among employees: 0							 Number of employees involved in the
			•Number of employees involved in the							recordable occupational injury cases: 0
			recordable occupational injury cases: 0							 Total recordable incidence rate (TRIR): 0.00
			 Total recordable incidence rate (TRIR): 0.00 							-TSRC USA
			-TSRC Comoration							 Total working hours of employees: 1,936
			 Total working hours of employees: 1,272,915 							 Number of recordable occupational injury cases
			 Number of recordable occupational injury cases 							among employees: 0
			among employees: 3							 Number of employees involved in the
			 Number of employees involved in the 							recordable occupational injury cases: 0
			recordable occupational injury cases: 3							 Total recordable incidence rate (TRIR): 0.00
			 Total recordable incidence rate (TRIR): 0.47 							-Polybus
			-Shen Hua Chemical							 Total working hours of employees: 3,792
			 Total working hours of employees: 784,391 							 Number of recordable occupational injury cases
			 Number of recordable occupational injury cases 							among employees: 0
			among employees: 1							 Number of employees involved in the
			 Number of employees involved in the 							recordable occupational injury cases: 0
			recordable occupational injury cases: 1							 Total recordable incidence rate (TRIR): 0.00
l			 Total recordable incidence rate (TRIR): 0.25 							-TSRC Lux
l			-Nantong Industries							 Total working hours of employees: 25,112
			 Total working hours of employees: 752,667 							 Number of recordable occupational injury cases
			 Number of recordable occupational injury cases 							among employees: 0
			among employees: 0							 Number of employees involved in the
			 Number of employees involved in the 							recordable occupational injury cases: 0
			recordable occupational injury cases: 0							 Total recordable incidence rate (TRIR): 0.00
			 Total recordable incidence rate (TRIR): 0.00 							-ISRC Group
			-TSRC-UBE							 Total working hours of employees: 3,498,514
			 I otal working nours of employees: 272,522 							 Number of recordable occupational injury cases
			 Number of recordable occupational injury cases 							among employees: 6
			among employees: 1							 Number of employees involved in the
			•Number of employees involved in the							recordable occupational injury cases: 6
			Tecordable occupational injury cases: 1							Iotal recordable incidence rate (IRIR): 0.34
			 Total recordable incidence rate (TKIK): 0.75 Choose hei In dustaine 							Note: The surpleyees in this table refers to normonant
			Total working hours of amployage: 167.992							 The employee in this table refers to permanent full-time employees 2023 TSRC employs one
			Number of recordable occupational injury cases							full-time temporary employee as visually
			among amployees: 1							impaired masseur, and no permanent part-time
			Number of employees: involved in the							employees and employees without guaranteed
			recordable occupational injury cases: 1							hours.
			*Total recordable incidence rate (TPID): 1.10		1					 The total working hours of TSRC employees are
			-TSRC (Vietnam) Company Limited				1			the sum of the working hours of employees at the TSRC Kaohsiung and Gangshan Factory, and the
			Total working hours of employees: 57 599		1					Global Business Headquarters. The Total
	I	1			i	1				Recordable Incidence Pate (TPIP) is calculated

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				I		
в	No.	Corresponding Section	Page	Subject Matter Information	Reporting Criteria	SASB
		Section		as the total number of recordable occupational injuries among TSRC Kaohsing and Gangshan Factory, and the Global Business Headquarters employees divided by the total working hours and multipicide by 200,000. - The Total Recordable Incidence Rate (TRR) is calculated as "Total number of recordable occupational injuries divided by the total working hours, multipicide by 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).	Cineria	
				In 2023, there were no reports of occupational finalities, severe occupational injuries, occupational illnesses, occupational disease fitalities, or work-related deaths among employees. 2023 Occupational Injuries and Illness of TSRC Non-employee Workers	 Details on performance 	
				 TSRC-Kaobsiumg Factory Total working hours of non-employees: 480,890 Number of recordable occupational injury cases among non-employees: 4 Number of non-employees involved in the recordable occupational injury cases: 4 Total recordable incidence rate (TRIR): 1.66 	of occupational health and safety of TSRC non- employees	
			P.172	 TSRC-Gangshan Factory Total working hours of non-employees: 14,263 Number of recordable occupational injury cases among non-employees: 0 Number of non-employees involved in the recordable occupational injury cases: 0 Total recordable incidence rate (TRIR): 0.00 Global Business Headquarter Total recordable incidence: 576 		
				Number of recordable occupational injury cases among non-employees: 0 Number of non-employees involved in the recordable occupational injury cases: 0 Total recordable incidence rate (TRIR): 0.00 TSRC Corporation Total working hours of non-employees: 495,729 Number of recordable occupational injury cases among non-employees: 4		

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No.	Corresponding Section	Page	Subject Matter Information	Reporting Criteria	SASB	No.	Corresponding Section	Page	
			recordable occupational injury cases: 4						reco
			 Total recordable incidence rate (TRIR): 1.61 						•Tot
			 Shen Hua Chemical 						- Polyt
			 Total working hours of non-employees: 						•Tot
			266,536						•Nur
			 Number of recordable occupational injury cases 						amo
			among non-employees: 2						•Nur
			 Number of non-employees involved in the 						reco
			recordable occupational injury cases: 2						•Tot
			•Total recordable incidence rate (TRIR): 1.50						- TSRO
			- Nantong Industries						•Tot
			 Total working hours of non-employees: 250.011 						•Nu
			 Number of recordable occupational injury cases 						am
			among non-employees: 0						• Nu
			•Number of non-employees involved in the						rece
			recordable occupational injury cases: 0						•Tot
			•Total recordable incidence rate (TRIR): 0.00						- TSRO
			TSPC-URF						•Tet
			 Total working hours of non-employees: 100.644 						1.29
			•Number of recordable occupational injury cases						• Nu
			among non-employees: 0						am
			•Number of non-employees involved in the						• Nu
			recordable occupational injury cases: 0						Tech
			•Total recordable incidence rate (TRIR): 0.00						•Tot
			 Shanghai Industries 						> Note:
			•Total working hours of non-employees: 26 467						- Non-
			•Number of recordable occupational injury cases						whos
			among non-employees: 0						alone
			•Number of non-employees involved in the						are no
			recordable occupational injury cases: 0						- The t
			*Total recordable incidence rate (TPIP): 0.00						work
			TSRC (Vietnam) Company Limited						Work
			Total working hours of non-employees: 35 140						Head
			Number of recordable occupational injury cases						Rate
			among non-employees: 0						recor
			*Number of non-employees involved in the						empl
			recorded a comparisonal injury access 0						Gang
			Total magadebla incidence rate (TRIR): 0.00						Head
			TODA Tecordable incidence rate (TKTK), 0.00						of no
			 Total working hours of non-employees: 109,618 						- The calcu
			 Number of recordable occupational injury cases 						occup
			among non-employees: 1						hours
			 Number of non-employees involved in the 						recor
			recordable occupational injury cases: 1						death
			 Total recordable incidence rate (TRIR): 1.82 						trans freat
	1		- TSRC USA			1	1		iniurst a
			 Total working hours of non-employees: N/A 				1		licen
	1		 Number of recordable occupational injury cases 			1	1		not re
	1		among non-employees: N/A			1	1		restri
			 Number of non-employees involved in the 				1		treatr
			1.7 7		4	1	1	l I	cons

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Corresponding Section	Page	Subject Matter Information	Reporting Criteria	SASB
		recordable occupational injury cases: N/A		
		 Total recordable incidence rate (TRIR): N/A 		
		- Polybus		
		 Total working hours of non-employees: N/A 		
		 Number of recordable occupational injury cases 		
		among non-employees: N/A		
		 Number of non-employees involved in the 		
		recordable occupational injury cases: N/A		
		 Total recordable incidence rate (TRIR): N/A 		
		- TSRC Lux		
		 Total working hours of non-employees: N/A 		
		 Number of recordable occupational injury cases 		
		among non-employees: N/A		
		 Number of non-employees involved in the 		
		recordable occupational injury cases: N/A		
		 I otal recordable incidence rate (I RIR): N/A 		
		 Total working hours of non-amployaes: 		
		1 284 145		
		•Number of recordable occupational injury cases		
		among non-employees: 7		
		•Number of non-employees involved in the		
		recordable occupational injury cases: 7		
		 Total recordable incidence rate (TRIR): 1.09 		
		> Note:		
		- Non-employee workers are defined as those		
		whose job content is monitored by TSRC Group		
		alone or jointly with other organizations, but who		
		 The total working hours of non-employee 		
		workers at TSRC Group is the sum of the		
		working hours at the TSRC Kaohsiung and		
		Gangshan plant, and the Global Business		
		Headquarters. The Total Recordable Incidence		
		recordable occupational injuries among non-		
		employee workers at the TSRC Kaohsiung and		
		Gangshan plant, and the Global Business		
		Headquarters, divided by the total working hours		
		of nonemployee workers, multiplied by 200,000.		
		 The Total Recordable Incidence Rate (TRIR) is aslaulated as "Total number of recordable 		
		occupational injuries divided by the total working		
		hours, multiplied by 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		
		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).		

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	 In 2023, there were no reports of occupational fatalities, occupational illnesses, occupational 	
	disease fatalities, or work-related deaths among non-employee workers at TSRC Group. However, Polybus and TSRC (Lux) did not employ any non-employee workers, so the data is marked as N/A.	

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TCFD Performance Assessment Statement The process and procedures of

TSRC CORPORATION

18F, No. 95, Sec. 2, Dunhua S. Rd., Da'an Dist., Taipel City 106, Taiwan (R.O.C.)

have been assessed from 14 March 2024 to 01 April 2024 and demonstrated the implementation status against the

Final Report: Recommendations of the Task Force on Climate-related

Financial Disclosures (29 June 2017)

The organization has incorporated climate-related governance organization 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 horizone The resilience of the organization's strategy were taking into consideration with different climate-related scenarios

Including SRIT 3*C and SRIT 15*C scenarios The methodology of organization's climate-related risk management process has been adequately implement as well as integrated into organization's overall hisk management. The scope1 and scope 2 greenhouses gas (DHS) emissions inventory has been conducted and verified annually, the multics and scenario analysis are used by the organization to manage climate-related risks and

opportunities and performance against targets For the following activities

Governance, Strategy, Risk Management, Metrics and Targets And cover the following operational locations: TSRC Corporation (Global Headquarter and Kaohsiung Factories), Shen Hua Chemical Industrial Co., Ltd., TSRC (Nantong) Industries Ltd., TSRC-UBE (Nantong) Chemical Industrial Co., Ltd., TSRC (Shanghai) Industries Ltd., TSRC Specially Materials LLC& Plaquemine Factory, TSRC (Vietnam) Co. Ltd., Polybus Corporation Ple Ltd., and TSRC (Lux.) Corporation S.à.r.I TSRC meets SGS TCFD performance assessment at disclosure level Authorised by



Stephen Pao Business Assurance Director Issue Date: 20 May 2024 Valid Date: 19 May 2025 SGS Taiwan Ltd. New Taipei City 24603, Taiwan t (02) 22993279 f (2)2299453 www.sgs.com





Chapter 4

Governance

NATURE AND SCOPE OF THE ASSESSMENT

SGS Taiwan Ltd. (htereinafter referred to as SGS) was commissioned by TSRC CORPORATION (hereinafter referred to as TSRC) to conduct an independent performance assessment of the Task Force on Climate-related Financial Disclosures, (hereinafter referred to as TCFD).

The information in the TSRC's TCFD disclosure framework and its presentation are the responsibility of the management of TSRC. SGS has not been involved in the preparation of any of the material included in TSRC's TCFD disclosure framework.

Our responsibility is to express an opinion on the report content within the scope of performance assessment with the intention to inform all TSRC's stakeholders.

The SGS protocols are based upon the Fundamental Principles for Effective Disclosure contained within the TCFD and SGS. Management System Manual and Global System procedures.

The performance assessment comprised a combination of pre-assessment research, interviews with relevant employees, superintendents, Sustainability committee members and the scnior management in TSRC's Headquarter; documentation and record review and validation with external bodies and/or stakeholders where relevant.

SCOPE OF PERFORMANCE ASSESSMENT AND DISCLOSURE CRITERIA

The scope of the performance assessment included evaluation of quality, reliability of TCFD disclosure and performance information and evaluation of adherence to the four core elements as well as seven principles for effective disclosures for the information to be disclosed.

PERFORMANCE ASSESSMENT METHODOLOGY

The assurance comprised a combination of pre-assurance research, interviews with relevant employees, documentation and record review and validation with external bodies and/or stakeholders where relevant.

STATEMENT OF 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 assessment team was assembled based on their knowledge, experience and qualifications for this assignment, and comprised auditors registered with ISO 26000, ISO 20121, SRA, EMS, CFP, WFP, GHG Verification and GHG Validation Lead Auditors and experience on the TCFD performance assessment service provisions.

ASSESSMENT OPINION

On the basis of the methodology described and the verification work performed, we are satisfied that the information demonstrated by TSRC within the TCPD performance assessment evaluated is reasonable, reliable and provides a sufficient and balanced representation of TSRC climate related risks and opportunities management activities and meets SGS TCFD performance assessment at disclosure level.

The findings recorded herein demonstrated a level of performance applied the Final Report, Recommendations of the Tota Force on Chinate estand Tancolal Exclosure (TCFO) (25 June 2017) and we only valid at the firms of the intervention and only as battle contractual use and does not reflexe the Client from contractional web, Reform, mitional or regional acts and regulations issued pursuant to TCFD. Page 2 of 2





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