台橡股份有限公司
TSRC CORPORATION

2022 ESG Performance

I. Achievement of ESG targets

• Environmental

Focus Area	Target	2022 Achievements	2023	2025	2030
Towards Carbon Neutrality Operation	Reduce total carbon emission (Scope1+2; Base year:2021)	Total emissions were reduced by 2.5% compared to the base year.	Total carbon emissions reduction by 5%	Total carbon emissions reduction by 10%	Total carbon emissions reduction by 22.5%
	Increase the use of renewable energy	• The Kaohsiung Dashe Factory and the TSRC Shanghai Industries plan to install solar panels and are expected to start using them in 2023. • Nantong Industries has confirmed to purchase green electricity in 2023.	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
Water Resource Optimization	Increase wastewater recycling	Wastewater recycled accounted for 21.18% of the total wastewater.	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
	Increase recycled water utilization	The percentage of recycled water used was 14.58% of the total water consumption.	Increase recycled water utilization to 15% of total water consumption	Increase recycled water utilization to 34% of total water consumption	Increase recycled water utilization to 40% of total water consumption
Lower Products' Carbon Footprint	Develop eco-friendly products	The new generation of synthetic rubber has contributed to reducing environmental carbon emissions by about 160,000 tons based on its 2022 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)
		Continued to develop green foaming products and evaluate feasible solutions for their application in consumer products.	Develop eco-friendly foaming product	Develop eco-friendly foaming products with recyclability	Develop eco-friendly foaming products that use renewable materials and more recyclability
		Continued to develop SBCs to evaluate their recycling properties and contribution to reducing greenhouse gas emissions from customer processes.	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)
	Product process optimization	Continued to optimize the TPE production process to increase the particle quantity and reduce steam usage.	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	Developed renewable material suppliers and continued to engaging customers and evaluating market demand.	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	We are introducing the sustainable product management system ISCC PLUS and conducting product carbon footprint assessments.	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

- **Social**

Focus Area	Target	2022 Achievements	2023	2025	2030
Strengthen Organization's Sustainability Capability	Enhance organizational ESG development and employee competency	Completed the manager competency transformation and the evaluation of nurturing sequence and provided global employees with individual development plan training. Enhanced professional competencies, with **63%** of employees having received training in 2022, and achieving a cumulative percentage of **30%**.	**30%** of employees (cumulative) undergone multiple competency training	**60%** of employees (cumulative) undergone multiple competency training	**80%** of employees (cumulative) undergone multiple competency training
		Provided ESG basic training to employees worldwide and constructed ESG management thinking.	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
	Sustainable cooperative program with business partners or outside institutions	Engaged with university/college internship programs and industry-academia cooperation in product research and development, and developed petrochemical special courses, with a cumulative **336 participants**.	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
Improve Health, Safety & Wellbeing of Employees	Enhance global workplace safety	The total recordable incidence rate (TRIR) for employees was **0.35**.	TRIR **≦ 0.36**	TRIR **< 0.3**	TRIR **< 0.3** and achieve one or more years of zero recordable injuries
	Strengthen employee engagement	**74%** engagement score via employee engagement surveys	**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	Promoted the Employee Assistance Program (EAP) and physical and mental health activities, with **770 participants** (cumulative)	**> 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
Enhance social engagement	Support environmental protection and social care programs	Participated in local organic farming program and childcare activities, with **540 participants** (cumulative).	**> 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
	Promote science education programs	Organized science education activities with **110 participants** (cumulative).	**> 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

Focus Area	Target	2022 Achievements	2023	2025	2030
Strengthen Corporate Governance	Enhance risk & crisis management	• Completed the impact assessment of climate risk and established management mechanisms and protective measures. • Regularly report to the Board of Directors and disclose important risk management mechanisms on the sustainability development 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
Integrate Sustainability and Business Strategies	Build new sustainable business	Evaluated new sustainable business investment opportunities.	Evaluation of new business	New business contributes **>5%** of total consolidated revenue	New business contributes **>10%** of total consolidated revenue
	Strengthen innovation momentum	Developed products made from renewable raw materials and substituted materials that reduce environmental impact.	Increase new products development activities	New products contribute **>15%** of consolidated revenue	Increase new product revenue contribution
	Uplift customized - service value Note	• Sales of easy-to-process synthetic rubber increased by **3.4%** compared to 2021. • Some TPE products were shipped with green packaging.	Increase the sales of easy-to-process synthetic rubber by more than **8%** versus 2021, and evaluate other solutions for customized services	Increase the sales of easy-to-process synthetic rubber by **20%** versus 2021, and pilot other new customized products or services	Increase the sales of easy-to-process synthetic rubber by **> 50%** versus 2021 and commercialize other new customized products or services
Build Resilient Operation	Accelerate reduction of supplier's GHG emission	Among the top 20 suppliers, 11 have clear greenhouse gas reduction targets and action plans.	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	**80%** (total purchase spent) of raw materials from local sourcing and develop local suppliers of renewable raw materials	**>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

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II. Other ESG performance

• Environmental

【GHG management】

Item	2020	2021	2022
Carbon emission per unit product （**tons of CO2e/ton**）	1.07	1.00	1.01

- The carbon emission per unit product of 2022 increased by 1% compared with 2021

【GHG Management】

Item	2020	2021	2022
Carbon emission per unit revenue （tons of CO2e/NTDK）	0.023	0.017	0.016

- The carbon emission per unit revenue of 2022 reduced by 5.88% compared with 2021

【GHG Management】

Item	2021	2022
Category 3: Indirect GHG emissions from transportation （Metric Tons of CO2e）	641	573

- The carbon emission per unit revenue of 2022 reduced by 10% compared with 2021

【GHG Management】

Item	2021	2022
Category 4: Indirect GHG emissions from products used by an organization （Metric Tons of CO2e）	1,405,289	1,345,987

- The carbon emission per unit revenue of 2022 reduced by 4.22% compared with 2021

【Energy Management】

Item	2020	2021	2022
Energy use per unit product (Billion Joule/metric tons production）	10.01	9.17	8.95

- The energy use per unit product of 2022 decreased by 10.08% compared with 2021

【Water resource Management】

Item	2020	2021	2022
Water consumption per unit product (tons / metric tons)	11.24	10.38	10.28

- Water consumption per unit product of 2022 decreased by 1% compared with 2021

【Waste Management】

Item	2020	2021	2022
Waste recycling volume per unit product (metric tons/ Thousand mt)	1.53	2.11	4.64

- Waste recycling volume per unit product of 2022 increased by 120% compared with 2021.

III. Social

【Employee training】

Item	2020	2021	2022
Training hours per person (hour)	35.94	47.53	71.19

- Training Hours per person of 2022 increased by 49.78% compared with 2021

【Remuneration】

Item	2020	2021	2022
Average salary of non-managerial staff (NTD)	950,624	1,064,601	1,078,887

- Average salary of non-managerial staff of 2022 increased by 1.34% compared with 2021

【Remuneration & welfare】

Item	2020	2021	2022
Salary and benefits expenses of the group's employee (NTD)	1,828,747,000	2,230,365,000	2,354,249,000

- Salary and benefits expenses of the group's employee in 2022 increased by 5.55% compared with 2021

【Occupational Injury】

Item	2022
Employee TRIR	0.35
Non-Employee TRIR	0.84

TRIR：Number of occupational disease cases/total work hours X 200,000

IV. Governance

【RD& Innovation】

Item	2020	2021	2022
RD Expense (NTDK)	350,678	371,679	392,118

- RD expense of 2022 increased by 5.5%compared with 2021

【RD& Innovation】

Item	2020	2021	2022
Total Approved Patent	403	419	429

- Approved Patent 2021 increased by 77.78% compared with 2020

【Local procurement】

Item	2020	2021	2022
Local procurement (By amount)	75%	81%	80%

V. Environmental Investment & Capex

- **Low-carbon Manufacturing**

  TSRC is committed to energy-saving and carbon reduction, with a focus on optimizing operations and utility systems and investing in high-efficiency equipment. In 2022, the Company replaced energy-consuming equipment, installed energy-saving devices, and implemented steam extraction and heat recovery technologies to reduce electricity and steam use in factories.

- **Renewable Energy**

TSRC has a comprehensive plan to increase renewable energy use at sites in Taiwan and China. The Company plans to achieve 5% of total electricity consumption from renewable sources by 2023, 10% by 2025, and 30% by 2030 through various means, such as building solar energy facilities and purchasing green power agreements and renewable energy certificates. In 2022, TSRC's subsidiary, Nantong Industries, signed a contract with green power suppliers and purchased green power certificates. It plans to start using renewable electricity in 2023.

In addition, TSRC is installing solar power generation facilities at Kaohsiung Dashe Factory site and expects to generate renewable energy in 2023, in response to Taiwan's "Renewable Energy Development Act" and the "Regulations for the Management of Setting up Renewable Energy Power Generation Equipment of Power Users above a Certain Contract Capacity." Starting in 2024, TSRC's subsidiaries in China, including Shen Hua Chemical, Nantong Industries, and TSRC-UBE, will increase the use of renewable energy. With self-generated green power, the Company will achieve the target. These efforts demonstrate TSRC's

commitment to promoting renewable energy and carbon reduction.

- **2022 TSRC Greenhouse Gas Reduction Actions**
  - In 2022, Shen Hua Chemical successfully implemented two steam-saving measures, resulting in a reduction of boiler fuel usage at the plant and a decrease in carbon emissions by 2,877 metric tons CO2e.
  - In 2022, Shen Hua Chemical implemented six electricity-saving measures, resulting in a total steam savings of 139.57 metric tons, which is equivalent to reducing 719 metric tons CO2e.
  - In 2022, Shen Hua Chemical implemented six steam-saving measures, which resulted in a total steam savings of 29,299.2 metric tons, which is equivalent to reducing 8,257 metric tons CO2e.
  - A reduction of 20,079 metric tons of purchased water reduction in 2022, equivalent to 99 metric tons of CO2e.

- **Environmental Capex**

Unit : NTD	2021	2022
Energy and GHG reduction	61,124,785	65,585,801
Air pollution reduction	38,273,072	57,672,813
Waste reduction	3,315,279	9,096,124
Enhancement of water management	4,722,282	7,154,179
Total	107,435,418	139,508,917

- **Other Investment**
  - In 2022, Kaohsiung Dashe plant purchased two renewable energy certificates.
  - In 2023, solar panels will be installed at the Dashe plant and TSRC Shanghai to generate electricity, and carbon reduction facilities will be installed at each plant, which are expected to reduce carbon emissions by approximately 4,000 metric tons per year. At the same time, the purchase of renewable energy through TSRC Nantong will enable the Group to achieve a renewable energy

usage rate by 5% in 2023.

- TSRC uses green deposits to support financial institutions to invest in green or energy-saving related activities and projects toward a low-carbon and sustainable environment. In 2023, there will be a total of four green deposits, with the total green deposits amounting to US$1.42 million.