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Toward Net-Zero Emissions

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3.1 Net-Zero Policy

Net-Zero Strategies

To mitigate the potential impacts of extreme climate events on Company operations and actively respond to leading international automotive brands’ expectations of net-zero emissions, SAI—a global leader in forged solutions—has set a long-term goal to achieve net-zero carbon emissions by 2050. Using 2022 as a base year, the Company has set a short-term goal of reducing carbon by 4% by 2026 and a medium-term goal of reducing carbon by 7% by 2030. We continue to monitor the progress of carbon reduction and steadily advance toward the long-term vision of achieving net zero by 2050. The Company continues to promote low-carbon transformation, innovation, and R&D, as well as collaboration along the value chains. We are committed to leading the forging industry toward sustainable development while cultivating a more resilient and sustainable future.

The Company conducts annual assessments of energy and greenhouse gas emissions. It utilizes SWOT analysis to assess external environmental factors and internal resources, identifying strengths, weaknesses, opportunities, and threats. This strategic approach guides the development of detailed action plans across four strategic directions, progressively moving toward achieving net-zero carbon emissions.

Strategic Direction	Deployment of renewable energy	Fostering a sustainable culture	Optimizing process energy efficiency
Implementation Details	Each plant installed solar power generation equipment for use in production processes, in compliance with government regulations on renewable energy contract capacity.	- Developed an annual energy education and training plan to enhance employees’ awareness of energy conservation. - Incorporated energy policies and related information into the training courses for new employees. - Participated in energy conservation courses and observational events organized by relevant units of the Ministry of Economic Affairs.	- Installed power quality analyzers to measure equipment energy consumption, providing a basis for subsequent improvement and monitoring. - Replaced hot air circulation systems with direct fire heating systems, such as the Pingtung intermediate furnace and direct fire furnace, to reduce energy consumption. - Gradually revised equipment operation and maintenance schedules to include shutdown procedures for idle periods. - Replaced induction motors in forging machines with servo motors to reduce no-load energy consumption. - Adjusted shifts in each production unit to operate during off-peak hours. - Referred to the Major Energy-Using Equipment Registration Form to evaluate the replacement of high-energy-consuming equipment. New equipment was selected based on the Energy, Environment, and Health Safety Design and Procurement Evaluation Forms to ensure high energy efficiency.
2024 Implementation Results	In 2024, a total of 1.8895 million kWh of green electricity was generated, equivalent to 1,896 green energy certificates.	- In 2024, Company employees were sent to participate in 13 sessions and a total of 145.5 hours of courses and forums related to climate change, carbon fee regulations, and carbon reduction technologies. - We actively participated in symposiums and explanation sessions hosted by government departments, such as the Yunlin County Climate Change Adaptation Implementation Plan Symposium.	We implemented improvements on three major energy-using pieces of equipment, achieving total energy savings of 5.299 million kWh/year.

Environmental Management Policy

To mitigate the environmental impact of our operations, SAI aims to achieve net-zero emissions by 2050 in response to the global warming control goals set by the <Paris Agreement>. The Company upholds its responsibility for mitigating climate change and protecting the ecology in response to the Aluminum Stewardship Initiative (ASI) standards. The Company has established an Environmental Safety and Health Policy to evaluate energy and carbon emissions, set carbon reduction targets, and initiate environmental education and training to raise employee awareness. Together, we strive to execute carbon reduction measures and minimize environmental impacts, while simultaneously addressing stakeholder expectations and adhering to regulatory requirements. This approach strengthens SAI’ s corporate resilience and sustainable value.

Environmental Safety and Health Policy	Management Action	2024 Implementation Results
Promoting EHS (Environmental, Health, and Safety) awareness among employees and relevant stakeholders	Conducting related education and training for dedicated personnel and all employees.	- EHS personnel: 168 person-hours participation in external training, totaling 662 hours; the Company holds 598 technicians' certificates (including 31 newly added technicians' certificates in 2024). - All employees: 4,395 person-hours of training, totaling 2,198 hours.
Complying with EHS regulations and related requirements	Monitoring regulatory changes and enhancing improvements and prevention measures for any violations.	- No major violations occurred; all incidents of non-compliance were adequately addressed and prevented. - No significant violations of the Waste Disposal Act. - No violations of the Air Pollution Control Act. - No violations of the Water Pollution Control Act.
Achieving EHS targets by promoting energy conservation, carbon reduction, green environmental protection, and physical and mental well-being	Aiming for net-zero carbon emissions by 2050, following the ISO 14001 and ISO 50001 management system cycles, and actively replacing high-energy-consuming equipment.	- Achieved a 21.5% reduction in carbon emission intensity compared to 2022. - Energy-saving improvements in various energy installations save 5.299 million kWh annually.
Improving EHS processes to reduce environmental hazards and ensure the safety and health of people	Following ISO 45001 Occupational Health and Safety Management System to mitigate occupational incidents and prevent hazardous substance leaks that could impact the environment and residents' health.	- No major leakage/seepage incidents occurred (affecting off-site surroundings). - No fatal occupational accidents occurred. - There was one occupational incident and 13 traffic accidents.

Note : Please refer to Chapter 5.4, Occupational Safety, for occupational safety management-related content.

Promoting EHS Awareness

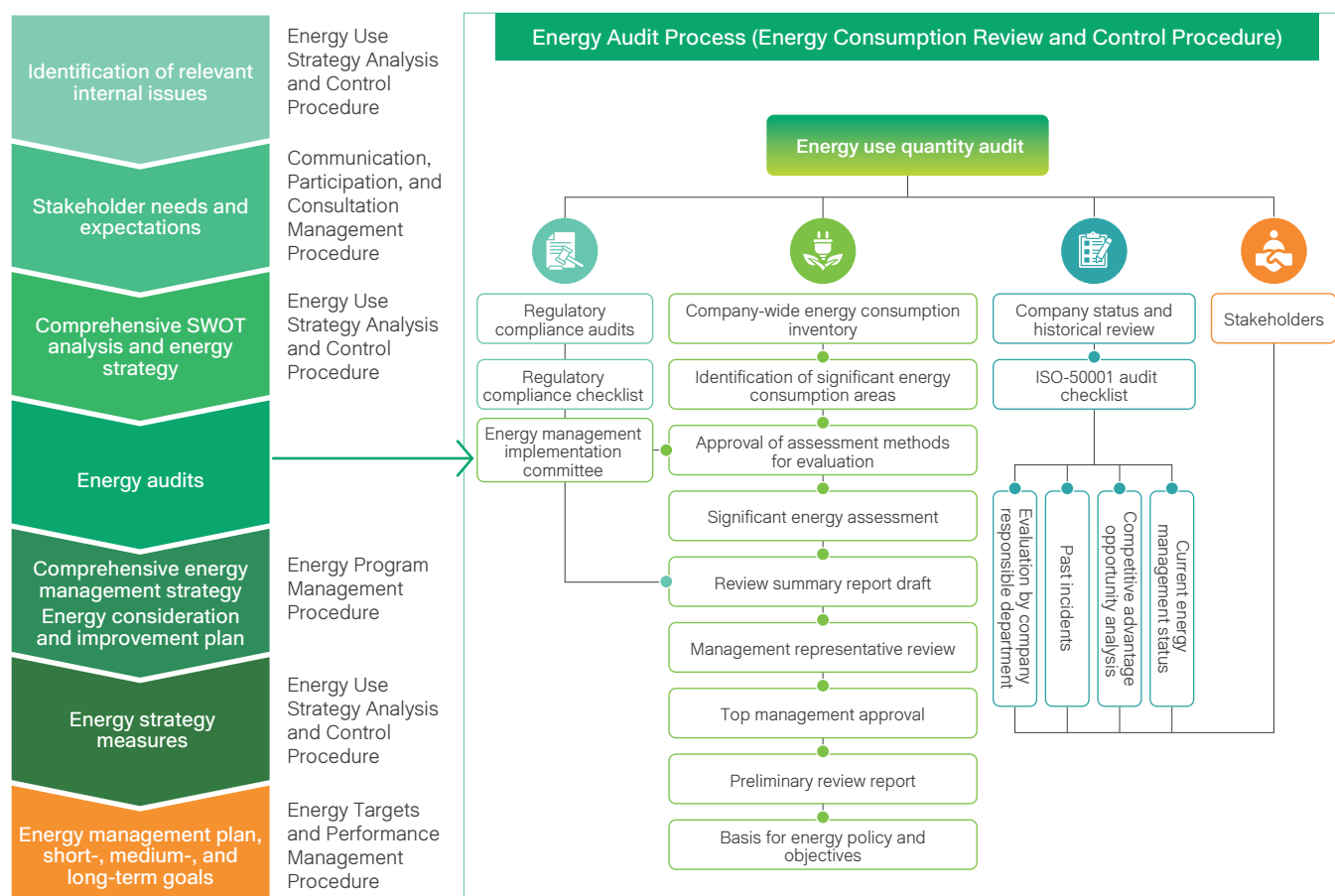
To achieve SAI’s environmental goals, education and training are provided to dedicated personnel and all employees. Through the leadership of dedicated personnel, SAI aims to achieve environmental sustainability. All employees are encouraged to practice sustainability in their daily work.

By the end of 2024, SAI had a total of nine employees holding ISO 14064-1 Greenhouse Gas Inventory internal auditor certifications and 38 employees holding ISO 14001 Environmental Management System internal auditor certifications. There were six person-hours of environmental training for dedicated personnel, including wastewater management, waste management, and air pollution control, totaling 64 hours. All employees received education and training on environmental protection-related knowledge, including deep-sea mining, environmental protection badge collection, and brief discussions on SDGs. The total number of participants reached 4,457, and the total training hours were 2,228.5 hours.

Training Participants	Training Focus	Training Content	2024 Training Outcomes
Dedicated personnel	Management system	- Internal auditors for ISO 14001 Environmental Management System - Internal auditors for ISO 45001 Occupational Health and Safety Management System	A total of 38 participants, totaling 266 hours A total of 50 people, totaling 350 hours
	Wastewater management	Water pollution prevention policies and regulations; Status and future development of wastewater treatment technology	A total of 2 people, totaling 14 hours
	Waste management	- Policies and regulations related to waste and resource recycling; - Status and future development of waste treatment technology	A total of 2 people, totaling 36 hours
	Air pollution control	- Air pollution prevention policies and regulations; - Current situation and future development of air pollution prevention and control technologies	Two participants, totaling 14 hours
	ISO 14064-1 Greenhouse gas emissions	Internal auditors for ISO 14064-1 Greenhouse Gas Inventory	Nine participants
All employees	Environmental protection-related knowledge	Deep-sea mining, environmental protection badge collection, and brief discussions on SDGs	A total of 4,457 person-hours, totaling 2,228.5 hours

3.2 Energy Management

To respond to the energy transition objectives in national energy policies, SAI has formulated principles and actions focused on reducing coal usage and promoting green initiatives. Through effective energy management systems, the Company monitors energy consumption, develops energy improvement plans, and initiates green energy development projects. The scope of this energy management system covers all operations and processes at SAI's plants, including Plant 1, Plant 2, the Chuwei Plant, and the Pingtung Plant in Yunlin Technology Industrial Park; it encompasses all activities, products, and services of employees on-site. It includes five major management procedures, structured as follows:



■ Energy Usage Policy

SAI upholds the principles of sustainable business practices, encouraging all employees to participate in and promote energy conservation and carbon reduction activities. We strive for continuous improvement through a reduction plan focused on enhancing energy efficiency and optimizing energy-saving process designs by purchasing energy-efficient and high-performance equipment. We are committed to the following:

1. Promoting energy-saving and carbon reduction awareness among employees and relevant stakeholders.
2. Compliance with energy laws and related requirements.
3. Achieving energy targets through energy-saving, carbon reduction, efficiency enhancement, and green environmental practices
4. Improving energy processes to reduce energy consumption and enhance energy efficiency.

To achieve these commitments, SAI plans to actively transit and invest in the next five years to enhance recycling rates (aluminum dross refining for recycled materials), promote green product initiatives, increase resource reuse (recycling wastewater), develop low-pollution source products (reduced solvent testing), and implement energy-efficient processes (automation control). These actions aim to advance the goal of achieving net-zero carbon emissions by 2050.

■ Energy Consumption

In 2024, SAI's total internal energy consumption recorded was 787,483.9 gigajoules (GJ), down 6.1% from 2023. Energy intensity was 0.1054 GJ/NTD thousand, 2.2% lower than the previous year. In the future, the Company will continue to promote energy efficiency management and energy-saving measures.

■ Energy Usage Statistics for the Past Three Years

Quantitative Indicators	Unit	2022	2023	2024
Natural gas consumption (heating)	M ³ /year	9,812,335.29	10,126,977.84	9,603,827.00
	GJ	369,740.57	381,596.68	361,883.37
Gasoline consumption	L/year	19,060.71	22,638.15	17,686.50
	GJ	622.47	739.29	563.45
Diesel consumption	L/year	267,196.96	309,134.20	267,772.40
	GJ	9,397.08	11,389.69	9,688.63
Electricity consumption (excluding refrigeration)	kWh/year	117,458,612.96	121,636,251.45	112,595,785.91
	GJ	422,851.01	437,890.51	405,417.80
Refrigeration electricity consumption	kWh/year	657,719.04	690,164.55	867,442.09
	GJ	2,367.79	2,484.59	3,123.35
Solar power generation	kWh/year	0	1,348,638.99	1,889,465
	GJ	0	4,855.10	6,803.30
Operating revenue	NTD Thousand	6,401,739	7,779,316	7,473,579
Energy consumption	GJ	804,978.92	838,955.86	787,483.90
Energy intensity	GJ/NTD Thousand	0.1257	0.1078	0.1054

■ Energy Performance

Due to reduced production capacity in some plants this year, production could not be concentrated, resulting in increased energy consumption that impacted performance. However, overall unit energy consumption still declined.

■ Energy Performance of Each Plant for the Past Three Years

Plant	year	Production Volume	Electricity Performance	Natural Gas Performance
Pingtung Plant	2022	74,611	393.77	60.55
	2023	141,256	260.22	36.77
	2024	190,339	209.13	28.38
	Unit energy consumption		Decreased by 19.63%	Decreased by 22.82%
	2022	531,185	121	9.03
Plant 2	2023	584,696	109.57	7.8
	2024	477,619	112.48	8.34
	Unit energy consumption		Increased by 2.66%	Increased by 6.92%
	2022	92,273	104.08	5.47
Plant 1	2023	66,590	115.2	5.49
	2024	46,772	155.45	4.68
	Unit energy consumption		Increased by 34.94%	Decreased by 14.75%

Note1. Energy Performance Indicator is defined as electricity consumption/ production output (Unit: kWh/PCS).

Note2. The electricity and natural gas efficiencies of the Pingtung Plant include the smelting facility; production output is excluded from calculations.

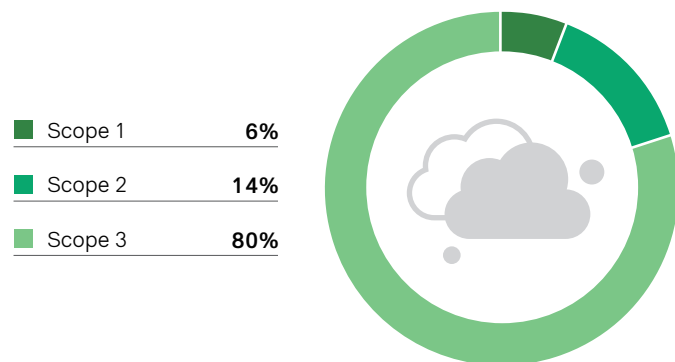
Note3. Thermal energy conversion is calculated based on the calorific value table announced by the Bureau of Energy.

3.3 Greenhouse Gas Emissions Management

In response to the global trend toward net-zero carbon emissions, SAI has implemented the ISO 14064-1 Greenhouse Gas Inventory System by establishing a systematic carbon emission monitoring, management, and disclosure mechanism. This mechanism ensures that the carbon emissions data generated by operating activities are highly consistent with the verification process, improving the transparency and credibility of carbon inventory information.

In 2024, SAI's greenhouse gas emissions regarding Scope 1 and Scope 2 totaled 75,081.4879 tCO₂e, down 8.4% from the baseline year (2022); the emission intensity was 0.0100 (tCO₂e/NTD thousand), a decrease of 21.5% compared to 2022.

SAI's 2024 Greenhouse Gas Emissions Structure



Greenhouse Gas Emissions Statistics for the Past Three Years

Unit:tCO₂e

Item	2022	2023	2024
Scope 1: Greenhouse gas emissions	21,756.7065	22,597.5517	21,299.9178
Scope 2: Greenhouse gas emissions	60,185.5175	60,647.9001	53,781.5701
Scope 1 + Scope 2	81,942.2240	83,245.4518	75,081.4879
Operating revenue (NTD Thousand)	6,401,739	7,779,316	7,473,579
Greenhouse gas emission intensity (tCO ₂ e /NTD Thousand)	0.0128	0.0107	0.0100

Note : The calculation of power carbon emissions is based on the carbon dioxide emission coefficient of 0.474 for 2024 published by the Energy Administration, Ministry of Economic Affairs; the coefficients of 0.494 and 0.495 for 2022 and 2023 are used, respectively.

Scope 3 Greenhouse Gas Emissions Statistics

Unit:tCO₂e

Indirect Emissions	Emission Sources	2023 emissions	2024 emissions
Category 3	Emissions from the upstream transportation of raw materials	7,275.4845	4,283.1203
	Emissions from the downstream transportation of goods	5,656.5668	5,537.6599
	Emissions from employee commutes	565.2224	538.1380
	Emissions from waste transportation	84.8378	306.8709
	Subtotal	13,582.1115	10,665.7891
Category 4	Organizational procurement of goods ^(see note)	261,346.9590	284,333.9840
	Disposal of waste generated from company operations	318.8943	424.7197
	Subtotal	261,665.8533	284,758.7037
Total		275,247.9648	295,424.4928

Note : Due to the change in raw material aluminum column data this year, from purchase volume to actual consumption, the carbon emissions of organizational procurement of goods in 2024 increased compared to 2023.

Seven Greenhouse Gas Emissions and Percentage

Unit:tCO₂e

	CO ₂	CH ₄	N ₂ O	HFCs	PFCs	SF ₆	NF ₃	Total
Emissions	369,912.2836	133.0191	21.1949	439.4343	0.0000	0.0489	0.0000	370,505.9810
Percentage	99.840%	0.036%	0.006%	0.119%	0.000%	0.000%	0.000%	100.000%

■ Scope 3 Indirect Emissions Management

SAI's greenhouse gas emissions are primarily attributed to Category 4—the organizational procurement of goods—driven mainly by the purchase of primary aluminum ingots, resulting in higher carbon emissions. To reduce overall carbon emissions from purchased goods, SAI recycles and reprocesses aluminum scrap and offcuts into recycled aluminum for product materials, significantly lowering total carbon emissions.

Furthermore, SAI is responsible for reducing Scope 3 indirect emissions by collecting carbon emission data from major aluminum ingot suppliers. The Company conducts greenhouse gas inventories with these suppliers. It progressively requires them to implement greenhouse gas inventories and assist in smart energy management systems, leading the industry toward net-zero carbon emissions. Specifically, SAI has investigated the greenhouse gas emissions data of its Dubai aluminum ingot suppliers for two consecutive years. The survey results are as follows:

■ Raw Material Supplier Greenhouse Gas Emissions Survey: Dubai Primary Aluminum Ingots

Carbon Emission Information for Raw Materials	2022	2023
Product carbon emission intensity (emissions/total aluminum output weight)	13.15 (tCO ₂ e/t of AL)	13.432 (tCO ₂ e/t of AL)
Total supplier emissions	39,816,207 (tCO ₂ e)	15,363,994 (tCO ₂ e)
Dubai's primary aluminum carbon emission coefficient		11.624 (kg CO ₂ eq./kg of product)

- The primary aluminum ingot suppliers have offset Scope 2 emissions through renewable energy certificates.
- The data includes Scope 1 and Scope 3 emissions, confirmed by a third-party verification company.

Note : Due to the varying inventory time of Dubai suppliers, the latest carbon emission data for 2023 provided by the suppliers are used for calculating the carbon emissions in 2024.

■ Renewable Energy Use

External electricity procurement is the primary source of greenhouse gas emissions regarding SAI's energy resource usage. In addition to energy efficiency initiatives, the Company continues to adopt clean energy sources to help reduce carbon emissions. It aligns with the government's goals of expanding green energy development for sustainable transformation. SAI invested NTD 66.8 million to establish a 1,492.4-kW solar power generation field at its Pingtung Plant, supplying internal energy needs. The facility generates approximately 1.85 million kWh annually.

The solar power generation field of the Pingtung Plant was completed in March 2023, generating a total of 1,889,465 kWh by the end of 2024. This accounted for 4.7% of the total power consumption of Pingtung Plant, equivalent to 1,896 Taiwan renewable energy certificates. Future plans include continuing to increase renewable energy use to meet government-mandated targets, aiming for 10% of contracted capacity from renewable sources to lead the industry toward low-carbon sustainability.

■ Proportion of Green Electricity Usage for the Past Two Years

Item	2023	2024
Green electricity consumption (kWh)	1,348,639	1,889,465
Total electricity consumption of the Pingtung Plant (kWh)	36,952,194	39,805,504
Proportion of green electricity	3.6%	4.7%

Note1. Total electricity consumption = purchased electricity + green electricity consumption.

Note2. Proportion of green electricity = green electricity consumption/(purchased electricity + green electricity consumption).

Note3. All green electricity is self-generated for self-use.

■ Energy Conservation and Carbon Reduction Policy

In addition to actively investing in renewable energy to reduce greenhouse gas emissions, SAI promotes energy conservation and carbon reduction activities comprehensively. The Company conducts regular reviews of project effectiveness to ensure that project progress and benefits meet standards. It closely monitors the use of electricity, lighting, and motors within its facilities to maximize overall energy efficiency and reduce unnecessary energy consumption. In 2024, various energy conservation and carbon reduction initiatives resulted in approximately 5,298,977 kWh of electricity savings (about 19,079 GJ) and a reduction of 2,511.715 tCO₂e in greenhouse gas emissions.

Energy Conservation and Carbon Reduction Plan 1

Energy-saving measure: Installation of a monitoring energy-saving system on the chiller unit in Building A of Plant 2 in Yunlin

Specific actions: Installation of flow meters and thermometers on the chiller unit piping, variable frequency drives on chilled water pumps, ice water pumps, cooling tower fans, and smart meters on power-consuming equipment to analyze the required cooling capacity of the chiller system and adjust the operation of peripheral equipment accordingly to achieve energy savings.



Cooling tower diagram



Chiller unit diagram

Energy Conservation and Carbon Reduction Plan 2

Energy-saving measure: Variable frequency control for the forging machine cooling water pump at Yunlin Plant 2

Specific actions: Installation of a variable frequency drive on the cooling water pump to lower pump speed after the forging machine oil temperature reaches the operating temperature, reducing inefficient energy consumption.



Cooling water pump variable frequency control diagram

Energy Conservation and Carbon Reduction Plan 3

Energy-saving measure: Installation of monitoring energy-saving systems on air compressors at Yunlin Plant 1 and 2

Specific actions: Installation of smart meters on air compressors, and installation of flow meters and pressure gauges on pipelines to optimize the number of fully loaded air compressors and shut down unloaded air compressors when the gas production meets production requirements.



Air compression system control diagram



Air compressor diagram

	Energy savings (kWh)	Energy savings (GJ)	Carbon reduction (tCO ₂ e)
Plan 1	619,405	2,230.26	293.597
Plan 2	67,067	241.48	31.790
Plan 3	4,612,505	16,608.00	2186.327
Total	5,298,977	19,079.74	2,511.714

Note1. Energy savings = (electricity consumption before improvement – electricity consumption after improvement).

Note2. 1 kWh = 0.0036 GJ.

Note3. Recorded values from smart meters are used to calculate electricity consumption after improvements.

Note4. Carbon emission calculation is based on the 2024 carbon dioxide emission coefficient of 0.474 published by the Energy Administration, Ministry of Economic Affairs.

3.4 Waste Management

Waste Management

The waste generated by SAI during its operations, with waste oil mixtures as the main item, totaled 5,018.81 metric tons, accounting for 71.83% of the total waste. To effectively manage different types of general and hazardous business waste, the Company has established a comprehensive waste management procedure, covering all stages of waste classification, transportation, removal, and treatment. It implements outsourcing disposal and reuse processes in compliance with regulations to reduce the potential impact on the environment.

In terms of source reduction, the Company has introduced organic solvent recycling equipment. In 2024, the organic solvent consumption per unit wheel decreased by 36.0% (Yunlin Plant) and 41.1% (Pingtung Plant), respectively, compared to the previous period, effectively reducing solvent use and waste liquid generation. At the same time, the Company optimizes product packaging design and reduces the consumption of cartons and support plates. In 2024, the recycling proportion of plastic dividers reached 48.36%. In addition to extending waste management to the end of the value chain, SAI has promoted the Waste Plastic Empty Drum Recycling Plan and commissioned suppliers to recycle and reuse, with a recycling rate of 92.38%.



I Non-Hazardous Waste

Unit: metric tons

Composition of Waste	Offsite			
	Treatment method	2022	2023	2024
Yunlin Plant				
General waste generated from business activities	Incineration treatment	355.84	251.18	229.89
Waste paint, paint sludge		28.81	97.74	142.86
Waste plastic mixtures		0.05	5.51	6.14
Waste fibers or other cotton, cloth mixtures		207.82	251.68	151.52
Waste oil mixtures		---	---	46.204
Non-hazardous oil sludge	Physical treatment	99.27	105.13	71.19
Inorganic sludge		394.78	436.57	352.31
Waste oil mixtures		2,966.21	2,334.04	2,034.46
Waste fibers or other cotton, cloth mixtures		0	4.18	0
Waste lubricating oil		20.15	0	0
Non-hazardous waste dust or mixtures	Landfilling	242.1	211.07	155.57
Sandblasting waste		6.07	6.91	10.15
Waste oil mixtures	Heat treatment	0	67.86	0
Waste wood	Announced for reuse	175.46	199.31	128.28
Waste ceramics		---	52.53	0
Waste plastics		52.07	153.89	63.43
Waste lubricating oil		---	---	14.85
Total		4,548.63	4,177.60	3,406.854
Announced reuse ratio		5%	9.71%	6.06%



I Non-Hazardous Waste

Unit: metric tons

Composition of Waste	Offsite			
	Treatment Method	2022	2023	2024
Pingtung Plant				
Organic sludge	Incineration treatment	0	4.08	27.08
General waste generated from business activities		97.99	131.67	138.73
Waste plastic mixtures		31.16	49.28	34.67
Waste fibers or other cotton, cloth mixtures		22.01	63.50	76.45
Waste oil mixtures		---	---	179.496
Waste paint, paint sludge		---	---	14.24
Inorganic sludge	Physical treatment	9.09	0	0
Waste oil mixtures		1,528.56	1,655.70	2,758.65
Waste refractory materials		5.48	44.31	20.47
Waste lubricating oil	Landfilling	226.41	0	0
Non-hazardous waste dust or mixtures		45.6	65.50	96.58
Waste oil mixtures		128.89	100.69	0
Waste wood	Announced for reuse	85.08	87.65	94.32
Waste plastics		8.24	17.694	12.97
Total		2,188.51	2,220.07	3,453.656
Announced Reuse Ratio		4.26%	4.75%	3.11%

Note : Heat treatment does not include incineration treatment.

I Hazardous Waste

Unit: metric tons

Composition of Waste		Offsite			
		Treatment Method	2022	2023	2024
Yunlin Plant	Waste liquid with a flash point below 60° C (excluding alcoholic waste with an ethanol volume concentration of less than 24%).	Incineration treatment	0	8.46	99.46
	Waste liquid with a flash point below 60° C (excluding alcoholic waste with an ethanol volume concentration of less than 24%).	Physical treatment	46.74	56.40	0
Pingtung Plant	Waste liquid with a flash point below 60° C (excluding alcoholic waste with an ethanol volume concentration of less than 24%).	Incineration treatment	52.07	16.38	26.96
Total			98.81	81.24	126.42

I Waste Generation in 2024

Yunlin Plant	Non-Hazardous Waste		Hazardous Waste		Total	
	Waste output (metric tons)	Percentage (%)	Waste output (metric tons)	Percentage (%)	Waste output (metric tons)	Percentage (%)
Yunlin Plant	3,406.854	48.76%	99.46	1.42%	3,506.314	50.18%
Pingtung Plant	3,453.656	49.43%	26.96	0.39%	3,480.616	49.82%
Total	6,860.510	98.19%	126.42	1.81%	6,986.930	100.00%

Unit: metric tons

I Waste Intensity for the Last Three Years

	2022	2023	2024
Waste output per unit of revenue	1.07	0.83	0.93
Non-hazardous waste output per unit of revenue	1.05	0.82	0.92
Hazardous waste output per unit of revenue	0.02	0.01	0.02

Unit: metric tons /
NTD million

Waste disposal Management

In 2024, to ensure that the waste treatment process is legal, compliant and in compliance with environmental standards, SAI not only entrusted qualified operators to carry out removal and treatment in accordance with the regulations, but also sent personnel to accompany waste removal vehicles to the treatment facilities from to confirm the implementation status of each link. It conducts regular visits to the waste treatment plant each year.

2024 Waste Monitoring Management	
Collaborating Companies	23 qualified waste transport companies and 29 qualified treatment facilities.
Daily	- Issue a triple-copy waste clearance form. - Audit waste transport processes for regulatory compliance.
Weekly	- Review GPS records of waste transport vehicles. - Compile transport records. Monthly
Monthly	- Track records of waste processing flow. - Report waste storage and output records.
Annually	Eight waste treatment facilities were visited in 2024.



Audit of facilities handling waste oil-water mixtures

■ Aluminum Waste Recycling

Aluminum is the primary raw material for SAI's products. Responding to environmental concerns and limited natural resources, the Company is continuously committed to reducing its dependence on natural resources. It actively promotes the Research and Development (R&D) of recycled materials. Scrap, cuttings, and offcuts generated during manufacturing processes are centralized for recycling and remelting into aluminum needed for production, achieving waste resource recycling. In 2024, the internal aluminum scrap recycling rate reached 100%, effectively reducing raw materials consumption and waste output.

Moving forward, SAI will continue to utilize highly automated HERTWICH smelting equipment in its manufacturing processes. This ensures that the Company continues to produce high-quality aluminum materials that meet international standards, moving toward a sustainable operating model that combines low-carbon manufacturing and a circular economy.

With increased operational capacity at the Pingtung Plant and in alignment with customer value chains decarbonization goals and relevant product certification requirements, SAI will gradually increase the proportion of recycled aluminum wheels in its products. In 2024, SAI incorporated recycled aluminum into its manufacturing processes. 100% recycled aluminum, totaling 12,103.87 metric tons, was used for automotive wheels, while 428.91 metric tons were partially melted with primary aluminum for chassis products as recycled aluminum material. The use of annual recycled aluminum totaled 12,532.78 metric tons in 2024. After deducting the primary aluminum contained in chassis products, the actual quantity of recycled aluminum used was 12,361.22 metric tons, accounting for 35.53% of the total material use for the year.

To further increase the use proportion of recycled aluminum, SAI has set a phased target to incorporate recycled aluminum into its processes by over 40% in 2025, increasing it to over 50% by 2026, and achieving over 55% by 2030, continuing to promote low-carbon transformation and resource recycling.

■ Raw Material Consumption Statistics

Unit: metric tons

Raw Materials	2022	2023	2024	2024 Proportion
SAI's 100% recycled aluminum	11,746.35	11,323.45	12,103.87	34.79%
Other recycled aluminum (see note)	502.94	368.73	257.35	0.74%
Total recycled aluminum	12,249.29	11,692.18	12,361.22	35.53%
Other recycled aluminum: primary aluminum (see note)	335.30	245.82	171.56	0.49%
Primary aluminum from Dubai	25,285.76	24,954.62	22,257.65	63.98%
Total primary aluminum	25,621.06	25,200.44	22,429.21	64.47%

Note : Other recycled aluminum materials consist of approximately 60% SAI's recycled aluminum and 40% primary aluminum, used for chassis products.



■ Leakage and Seepage Management Plan

In the event of a major leakage/seepage incident, the Company shall assess the leakage/seepage of air pollutants, wastewater, and waste based on the following leakage/seepage risk assessment table; it shall implement corresponding emergency response measures according to the assessment results of the leakage/seepage:



Over the past three years, the Company has not experienced any major leakage/seepage incidents of air pollutants, wastewater, or waste, demonstrating the stable effectiveness of our implementation of the environmental management system. In the future, SAI will uphold sustainable operating principles and enhance pollutant monitoring and treatment in accordance with ISO 14001 procedures and licensing requirements, ensuring ongoing, effective management of environmental risks.

3.5 Air Pollution Control

The Company's pollution control items include volatile organic compounds (VOCs), total suspended particles (TSP), nitrogen oxides (NOx), and sulfur oxides (SOx). We conduct pipeline inspections according to the contents specified in the environmental permits issued by the environmental protection agencies. The inspection results are within the scope of legal standards; there are no emissions from ozone-destroying substances.

Adhering to the principle of sustainable operations and aligning with the Company's health, safety, and environmental policy, SAI plans to increase the investment by approximately NTD 50 million. This initiative aims to improve air pollution control efficiency, develop low-pollution raw materials, and enhance pollution source equipment to reduce key pollutant emissions. The Company has also set a goal to reduce air pollutant emissions by 3% in 2025 compared to the baseline year (2022); it will regularly review and update the emission reduction plan every five years to continue to promote the effectiveness of air pollution control.

■ Statistics on Air Pollution Emissions

Year	2022	2023	2024
Total air pollution emissions/turnover (kg/NTD Thousand)	0.0141	0.0105	0.0116
Turnover (NTD Thousand)	6,401,739	7,779,316	7,473,579
Total air pollution emissions (kg)	89,975	81,841	86,589
Volatile organic compound (VOCs) emissions (kg)	54,191	53,291	56,233
Total suspended particles (TSP) emissions (kg)	14,447	8,969	7,300
Sulfur oxides (SOx) emissions (kg)	2,813	2,172	3,951
Nitrogen oxides (NOx) emissions (kg)	18,524	17,409	19,106

■ Air Pollution Control and Emission Reduction Plan

Prevention and Control Items	Prevention and Control Equipment	Emission Reduction Efficiency
VOCs	Yunlin Plant adopts BACT, incorporating low-pollution raw materials or installation of RTO for heat recovery incineration/condensation recovery.	95%
TSP	Pingtung Plant employs BACT with the addition of scrubbers and dust collectors.	58.95%
Nox	Yunlin Plant and Pingtung Plant implement BACT with the installation of SCR denitrification equipment.	35.7%
SOx	Pingtung Plant adopts BACT with the addition of FGD for smoke exhaust desulfurization.	40.8%

3.6 Water Resource Management

The Company recognizes the importance of conserving water resources and continues to enhance the efficiency of water resource utilization and risk management. Through water resource risk assessment mapping, SAI’s Plant 1, Plant H, Plant 2, the Chuwei Plant, and the Pingtung Plant are all located in areas with relatively low water risks; no plants are located in areas with high water pressure.

In 2024, the Company’s water withdrawal was 658.68 km³, the water discharge was 493.61 km³, and the water consumption was 165.07 km³. Compared to 2023, the overall water withdrawal was flat; the discharge volume increased slightly, mainly due to an increase in discharge volume from the Pingtung Plant; water consumption showed a downward trend during the same period.

I Water Usage Statistics over the Past Three Years

Unit: km³

Year	2022	2023	2024
Water Withdrawal	568.82	660.41	658.68
Water Discharge	437.10	473.53	493.61
Water Consumption	131.72	186.88	165.07

SAI has implemented water management measures to enhance the efficient utilization of water resources:

1.

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Daily monitoring of tap water usage to promptly address any anomalies.

Adoption of overflow water from cleaning line equipment for the reuse of cleaner water.

Regular maintenance of cooling towers is necessary to maintain efficiency.

Recycling purified water to reduce tap water consumption.

Evaluation for implementing water recovery equipment, including biological treatment, distillation systems, and UF & RO filtration systems.

Use of water-saving faucets, toilets, and other products.

■ Overview of Wastewater Discharge

At the Yunlin and Pingtung plants, wastewater primarily originates from production processes and staff domestic sewage. Before discharge, wastewater undergoes pretreatment in accordance with water pollution control measures within onsite wastewater treatment facilities. Following treatment, it is discharged into industrial zone sewage treatment plants. Ultimately, wastewater from Yunlin Plant is released into the Huwei River, while that from Pingtung Plant enters the Gaoping River. Due to the addition of equipment at the Pingtung Plant, the total wastewater discharge volume rose from 96.05 km3 to 125.70 km³.

I Statistics of Wastewater Discharge Volume

Unit: km³

	2022	2023	2024
Yunlin Plant	353.87	377.48	367.90
Pingtung Plant	83.20	96.05	125.70
Total	437.07	473.53	493.60

These plants are equipped with various wastewater treatment facilities, including fine screens, equalization tanks, pH adjustment tanks, electrocoagulation systems, sedimentation tanks, biological reactors, and discharge ponds. Their facilities are complemented by monitoring equipment that conducts daily assessments of water quality conditions.

I Overview of Wastewater Quality

Plant	Measurement items	Suspended Solid (SS)	Chemical oxygen demand (COD)	PH value
Yunlin Plant	Regulatory standards	320	480	6~9
	Measurement results	3.7~182	7.4~458	6.2~8.2
Pingtung Plant	Regulatory standards	30	100	6~9
	Measurement results	27.8	10.9	7.0

■ Water Pollution Reduction Plan

To reduce wastewater discharge, SAI aims to enhance water resource reuse by evaluating water recovery equipment, improving water efficiency, and implementing distillation and filtration systems. The goal is to achieve an 80% total wastewater recycling rate by 2027, with regular quarterly reviews of the reduction plan.

I Wastewater Recycling Rate Status

Plant	Wastewater Recycling Rate in 2023	Wastewater recycling rate in 2024
Yunlin Plant	23.41%	21.84%

3.7 Biodiversity Management

Faced with the challenges of global ecosystem degradation and rising natural capital risks, companies must not only focus on the rational use of resources during their development process, but also actively identify and manage dependence and impacts on biodiversity and ecosystem services. Recognizing the importance of biodiversity conservation to the stability and sustainable value of corporate operations, SAI has incorporated nature-related issues into its risk assessment and operation planning process. The Company is committed to reducing the impact on ecosystems while promoting a sustainable business model of coexistence and shared prosperity with the environment.

During the initial establishment of the Company's facilities, careful consideration was given to the impacts on the local ecological environment, with a commitment to minimizing impacts on the ecological environment during development and operational processes. To confirm the potential risks of our operational activities on the local natural environment, SAI conducted a biodiversity and ecosystem services-related risk assessment for both its Pingtung and Yunlin plants. The scope comprises aspects of air pollution, abnormal wastewater discharge, invasive alien species, and ecosystem services. Based on the "risk source – scope of impact – probability of occurrence – severity of impact" framework, the assessment conducted is a systematic analysis of the impacts on animals, plants, humans, and surrounding communities.

The assessment results indicate that the impact of related operating activities on the local ecosystem at the two plants is of low risk with no significant effect. Regular inspections and local information updates will continue to be carried out to ensure a positive and stable relationship between plant operations and the natural environment.

Risk Source		Scope of Impact	Risk Assessment		
			Probability of Occurrence	Severity of Impact	Risk Level
Environmental pollution	Reduction in biodiversity due to air pollution.	Animals, plants, and humans	Low	Low	Low
	Abnormal discharge of wastewater, leading to river pollution and affecting riverine ecology.		Low	Low	Low
Invasive species	Wooden crates and pallets may harbor invasive biological species, impacting local ecology.	Animals, plants	Low	Low	Low
Ecosystem services	Noise, air quality, wastewater discharge, and light pollution.	Surrounding residents	Low	Low	Low



TNFD Disclosure Framework

In response to the importance that international investors and stakeholders attach to environmental disclosure information, SAI refers to the framework released by the Taskforce on Nature-related Financial Disclosures (TNFD). This serves to gradually introduce the dimensions of governance, strategy, risk management, and metrics and targets, assess nature-related dependencies and risks, and incorporate them into organizational operations and decision-making processes.

The Company launched internal inventory and cross-department collaboration to initially assess the natural resources and ecological risks around the plant area and incorporate biodiversity and water resources issues into supplier management norms. It has strengthened governance mechanisms and management participation and gradually constructed corresponding response strategies and information disclosure capabilities.

SAI will continue to monitor future developments of the TNFD framework, gradually expand the scope of assessment to global operating locations and upstream and downstream activities in the value chain, and continue to enhance the Company's natural risk resilience and sustainable competitiveness.

Dimension	TNFD Disclosure	Content
Governance	Board's oversight of nature-related dependencies, impacts, risks, and opportunities.	- The Company has integrated climate change and natural resource-related risks (including emerging issues such as biodiversity) into its overall risk management structure, which is regularly supervised by high-level governance. Relevant information is submitted to the Board of Directors at least once a year as the basis for decisions on sustainability strategies and risk response. - Functional Committees participate in the governance of climate and environmental issues. For example, the Audit Committee holds quarterly meetings; the internal audit chief reports on the audit operations and findings of the audit department on the effectiveness of the design and implementation of the internal control system for climate-related risks. This serves to strengthen the Company's ability to control and respond to environmental risks.
	Management's role in assessing and managing nature-related dependencies, impacts, risks, and opportunities.	
	The Company's human rights policies and engagement activities, and oversight by the Board and management, concerning Indigenous peoples, local communities, affected and other stakeholders, in the assessment of, and response to, nature-related dependencies, impacts, risks, and opportunities.	- The Office of Corporate Sustainable Development analyzes and evaluates nature-related frameworks (such as TNFD) and applies corresponding methodologies to gradually and comprehensively study the impact of biodiversity issues on corporate promotion methods while formulating implementation directions and strategies. - Sustainable value chains incorporate biodiversity issues into the Supplier Code of Conduct, working with suppliers to reduce dependencies and impacts on key environmental capital.
Strategy	Nature-related dependencies, impacts, risks and opportunities the Company has identified over the short, medium and long term.	- Based on the results of the "Company Location" and "Assessment" phases, the Company lists risks and opportunities and assesses their qualitative importance. The relationship between enterprises and biodiversity varies depending on regional characteristics and the external environment. We conduct evaluations within a 2-kilometer radius of our operating activities, concerning projects such as protected areas and key biodiversity areas, and results fluctuate. - We monitor the natural resources and biodiversity coverage around the Plant 2 area and communicate with the competent local authority to understand the nearby natural ecology and cultural protection initiatives. The Company is located in a well-planned local industrial park. The local competent authority has assessed that activities related to the area where the plant is situated are of low risk to local biodiversity and ecosystems.
	The effect that nature-related dependencies, impacts, risks, and opportunities have had on the organization's business model, value chain, strategy, and financial planning, as well as any transition plans or analysis in place.	- Through exchanges with domestic industry, government, academic, and research units, we continue to monitor the ecological environment, respect ecological balance, and safeguard endangered species. - In the future, the Company will continue to promote the planning and implementation of nature and biodiversity-related courses to strengthen internal awareness and professional competencies. - We expand the scope of biodiversity risk assessment to cover overseas manufacturing plants, areas around office areas, and upstream and downstream operating activities in the value chain. Through more comprehensive identification and analysis, we further develop management strategies for nature-related risks and opportunities, assess their potential impact on operations, and improve overall environmental resilience and adaptive capacity.
	Resilience of the Company's strategy to nature-related risks and opportunities, considering different scenarios.	- We have established a sound natural disaster response plan for risk management to address potential storms, floods, and earthquakes, ensuring the continued operation of the business and the safety of employees. To reduce risks along the value chain, we adopt diversification strategies to reduce dependence on a single region or material and improve adaptability. - We actively seek innovation in renewable energy and environmental protection technologies. In addition to renewable energy, we are committed to developing resource recycling technologies to cope with future changes in environmental regulations and market demand. This will provide opportunities for the Company to explore new markets and development areas.
	Disclosure of the locations of assets and/or activities in the Company's direct operations and, where possible, upstream and downstream value chain(s) that meet the criteria for priority locations.	- The locations where companies conduct business activities are closely related to nature; thus, it is essential to evaluate the locations of relevant activities to identify, assess, avoid, mitigate, and manage the risks they face. During the "Positioning" stage, we evaluated the locations of plant and office activities from various aspects such as ecosystem integrity, biodiversity importance, and water pressure to determine priority locations. - We conduct assessments of biodiversity-related risks for the Company's operating locations and activities, including physical and reputational risks. The sites selected by the Company are all located in well-planned industrial parks, as evaluated by the competent authorities.

Dimension	TNFD Disclosure	Content				
Risk and impact management	The processes for identifying and assessing nature-related dependencies, impacts, risks, and opportunities.	- Impacts based on environmental capital (e.g., water resources) vary depending on location and region; relevant goals and strategies must be adapted to local conditions. We use the LEAP method of the TNFD disclosure framework for integrated disclosure. - At this time, we conduct a preliminary assessment of the dependencies and potential impacts on the industries in which we operate, ecosystem services, and environmental capital, excluding upstream and downstream suppliers and customers. Several items with high and medium dependencies have been identified (see the table below for details). - Process operations depend partly on water resources; therefore, water scarcity may disrupt production lines. After a comprehensive assessment, the risk of water resource-related dependencies and impacts is classified as a moderate risk item. Please refer to the short-term financial impact of climate change management for the risk and cost of operating interruption caused by water shortage. For high-risk climate regulations, we use the Company’s Risk Management Policy, including environmental risks and response measures, to ensure compliance with regulations. - In terms of the impact of the production process on environmental capital, the high impact of greenhouse gas emissions due to the large amount of energy used in the production process, and the medium impact of waste are monitored and managed through materiality issues.				
	The processes for identifying and assessing nature-related dependencies, impacts, risks and opportunities in its upstream, own operating and downstream/investment and financing activities.	Value Chain Location	Risk Category	Risk Name	Risk Correlation Assessment	Degree of Impact
		Company operations	Physical impacts	Dependency on ecosystem services	Climate regulations	High
					Water shortages	Medium
				Impact of production processes on environmental capital	Greenhouse gas emissions	High
					Waste, pollution	Medium
The processes for identifying, assessing, and managing nature-related risks are integrated into the organization’s overall risk management system.	The Company’s risk management mechanism integrates nature-related risks. In accordance with the Company’s Risk Management Policy—through risk identification, risk analysis, risk assessment, risk response and monitoring, risk reporting and disclosure, and other management processes—each risk authority unit must conduct a risk assessment based on the identified risk scenarios and propose a risk response improvement plan based on the assessed residual risk level to adjust risks effectively.					
How the Company’s assessment of nature-related dependencies, impacts, risks, and opportunities affects and responds to its stakeholders.	The Company continues to conduct environmental pollution investigations and tracking for multiple locations. Through environmental education and promotion, we actively give back to the community, aiming to continually improve the natural environment.					
Indicators and goals	The Company uses metrics to assess and manage material nature-related risks and opportunities in line with its strategy and risk management process.	- When we establish a new investment base, environmental impact assessment is included in key review items and used as a condition for investment decisions and settlement. - Suppliers are prohibited from doing business in locations that contain globally or nationally significant biodiversity. - Risk and opportunity metrics will be updated after the analysis and evaluation of new operating locations and the value chain are completed. - Environmentally related emissions are controlled in existing plant sites without the occurrence of major environmental incidents.				
	The targets and goals used to manage nature-related dependencies, impacts, risks, and opportunities, and their performance.	- Risk and opportunity goals are set after the analysis and evaluation of new operating locations and the value chain is completed. - Environmentally related emissions are controlled in existing plant sites without the occurrence of major environmental incidents.				
	The targets and goals used to manage nature-related dependencies, impacts, risks, and opportunities, and their performance.	- Risk and opportunity metrics are set after the analysis and evaluation of new operating locations and the value chain is completed. - Environmentally related emissions are controlled in existing plant sites without the occurrence of major environmental incidents.				