Chapter 5. Sustainable Environment

This section covers manufacturing sites and subsidiaries, including Plants I to IV, Trend Tone Imaging, Inc., and Everlight (Suzhou) Advanced Chemicals Ltd. Office-based sites are excluded due to lower environmental impact. Plants I to IV, Trend Tone Imaging, Inc., and Everlight (Suzhou) Advanced Chemicals Ltd. in China have all obtained ISO 14001 certification.

I. Sustainable Environmental Management (GRI 2-23)(GRI 2-24)(RT-CH-530a.1)

Everlight Chemical prioritizes environmental protection. In 2022, it partnered with the Taiwan Chemical Industry Association (TCIA) to advance global climate goals, promoting net-zero emissions by 2050 through shared technologies and resources.

The Company's environmental policies cover water management, pollution prevention, and climate change (see Chapters 5.3, 5.4, and 5.6). Efforts include process optimization, GHG reduction, and inventories aligned with ISO 14064-1 - demonstrating a strong commitment to local environmental impact management and ecological conservation.

Environmental Management Policy

Recognizing the finite nature of Earth's resources and the importance of sustainable development, we support initiatives such as climate-related financial disclosures, net-zero emissions, renewable energy, green chemistry, and the circular economy. To this end, we have established and are committed to the following environmental policy: "Anticipate Environmental Risks, Advance Environmental Sustainability."

Environmental Policy

For 5 major environmental aspects - energy consumption, GHG, water, air pollution, and waste - we have established the following policies, commitments, qualitative goals, and quantitative targets for 2030:

Environmental Issues	Policies & Commitments	Qualitative Goals	Quantitative Targets for 2030
Energy Consumption	Our energy management policy is: Enhance energy performance and move towards net-zero sustainability.	Our GHG reduction efforts include: ・Process & equipment optimization ・Innovative management practices ・GHG inventories aligned with ISO 14064-1 or relevant standards ・Continuous implementation of reduction measures	Energy Intensity (GJ per million NT$ output) ≦ 70
Greenhouse Gases			GHG Emission Intensity (tCO_2e per million NT$ output) ≦ 7.3 [Note 1]
Water	Recognizing water scarcity, the Company strives to improve recycling (R2) and enhance wastewater treatment to reduce environmental impact.	Water Intake: Strengthened recycling measures and usage surveys Discharge: Improved treatment efficiency and routine water quality monitoring Water Risk: Regular assessments of site locations for water stress	Total Water Withdrawal ≦ 872 ML Discharge Compliance = 100% Water Recovery Rate R2 ≧ 95% [Note 2]
Air Pollution	The Company maintains air quality by applying source control and best available technologies to reduce emissions.	Complies with air pollution regulations and applies effective controls Uses clean, low-emission energy and improves processes to cut SOx and NOx Manages emissions per hazardous air pollutant standards for stationary sources	Air Pollutant Emission Reduction Rate per Unit of Production ≧ 4%
Waste	The Company values resources and promotes waste reduction and recycling.	The Company established the "Circular Economy Promotion Committee" to drive waste reduction and resource recovery toward zero emissions and waste.	Waste Recycling Rate ≧ 80% [Note 3]

Note 1: GHG emission intensity (2021-2023) was revised for consistency. See Chapter 5 "Greenhouse Gas and Energy Management."
Note 2: The 2030 R2 water recovery target was adjusted from 96% to 95%. See Chapter 5 "Water Resource Management."
Note 3: The 2030 waste recovery target was updated from 73% to 80%. See Chapter 5 "Pollution Prevention."

Environmental Management Organizational Structure & Responsibilities

To enhance environmental performance, the Company has established a clear management structure led by the Chairman through the "Sustainability Development Committee" to drive environmental goals.

Environmental Management Structure | Environmental Management Framework (PDCA) | ISO 14001 Certification

Each plant regularly holds Environmental Management Review Meetings following the PDCA cycle to continuously review and improve environmental goals and implementation.

Commitments, Targets & Communication Responses for Environmental Issues

Since 2021, the environmental reporting scope has expanded to include subsidiaries. Aligned with SDGs #6 Clean Water and Sanitation, #7 Affordable and Clean Energy, #12 Responsible Consumption and Production, and #13 Climate Action, the Company reviewed and redefined its pollution prevention policies and targets, approved by the "Sustainability Development Committee."

We commit to regulatory compliance and regular disclosure. In 2024, water use, carbon emissions, and waste were analyzed across all sites. As office sites showed minimal impact, future reporting will focus on production sites.

SDGs	#6	#12	#7, #13
Group Region	Water Consumption (ML)	Waste Generation (tons)	GHG Emissions (tCO_2e)
Office-Based Operating Sites (a)	6.1	6.4	830.3
Plant Sites (b) [Note 1]	628.5	8,422.6	70,300.4
Proportion of Environmental Impact from Office-Based Operating Sites within the Group (%) [Note 2]	1.0%	0.1%	1.2%

Note 1: The plant sites include Plants I to IV, Trend Tone Imaging, Inc., and Everlight Suzhou. The office-based operating sites include the Global Operations Headquarters, Taichung and Tainan Office in Taiwan, Ethical Shanghai Ltd./Everlight Shanghai (including Tianjin and Qingdao office), Shanghai Anda, Ethical Guangzhou, Everlight Hongkong, Everlight Europe B.V, Everlight USA, Elite Turkey, and Everlight Vietnam.
Note 2: The proportion of environmental impact contributed by office-based operating sites within the Group (%) = (a) / (a + b).

Environmental Issues & Management Indicators for Plant Sites

For each management item, we have established the following management indicators with reference to GRI, SASB, local regulations, and customer requirements:

Management Items	Management Indicators	Performance					Target	Achievement Status	Mid-term Target (2025)	Long-term Target (2030)
		2020	2021	2022	2023	2024	2024			
Water Resources Management	Water Recovery Rate R2 (%) [Note 1]	81	86	93	95	92	≧ 94	X	≧ 92	≧ 95
	Compliance Rate of Wastewater Treatment (%)	100	100	100	100	100	100	V	100	100
	Total Water Withdrawal (ML)	688.1	824.5	721.5	593.8	628.5	≦ 872	V	≦ 872	≦ 872
Pollution Prevention	Air Pollutant Emission Reduction Rate per Unit of Production (%) [Note 2]	-22	6	-3	-6	-7	≧ 2	X	≧ 3	≧ 4
	Waste Recycling & Utilization Rate (%) [Note 3]	68	71	72	71	78	≧ 71	V	≧ 79	≧ 80
	Recycling Rate of Hazardous Industrial Waste (%)	2.8	3.3	4.3	10.3	13.5	≧ 6.3	V	≧ 7.3	≧ 8.3
Climate Change - Mitigation & Adaptation	GHG Emission Intensity (tCO_2e/million production value) [Notes 4-5]	-	9.77	9.11	8.97	8.92	Original ≤ 8.3 Revised ≤ 8.96	V	≦ 8.8	≦ 7.3

Note 1: Water Recovery Rate R2 (%) targets were adjusted: 2025 from 95% to 92%, and 2030 from 96% to 95%. See Chapter 5: "Water Resource Management" for details.
Note 2: Air pollutant reduction per unit output = [1 - (air pollutant emissions per ton (kg/ton) / baseline (2.1))] × 100. See Chapter 5: "Pollution Prevention" for details.
Note 3: Waste recycling rate targets were revised: 2025 from 72% to 79%, and 2030 from 73% to 80%. See Chapter 5: "Pollution Prevention" for details.
Note 4: The Board approved the Group's 2030 carbon reduction target in 2023, with 2021 as the base year. Data disclosed from 2021.
Note 5: GHG intensity (2021–2023) was revised for consistency. See Chapter 5: "Greenhouse Gas and Energy Management" for details.
Note 6: The original target of ≤ 8.3 was set prior to the emissions data revision. Based on the revised data, the 2024 target was adjusted to ≤ 8.96, which has been achieved.

Summary of the causes and corrective actions for not meeting targets on water recycling rate, air pollutant reduction per unit output, and GHG emissions intensity is as follows.

Management Indicator	Reason for Not Meeting the Target	Improvement Measures
Water Recovery Rate	New water meters revealed overestimated recycled water volumes at some sites; corrected data fell short of original targets.	Targets adjusted to reflect current conditions: 2025 from 95% to 92%, 2030 from 96% to 95%.
Air Pollutant Emission Reduction Rate per Unit of Production	Increased VOC-related product output led to higher emissions.	Emissions rose due to increased production and updated regulations; no action required as compliance is maintained.
GHG Emission Intensity	The original target of ≤ 8.3 was set prior to the emissions adjustment. Following the revision, the 2024 target was updated to ≤ 8.96 and has been met.	Ongoing equipment upgrades and process improvements aim to reduce energy use.

II. Investment in Environmental Management

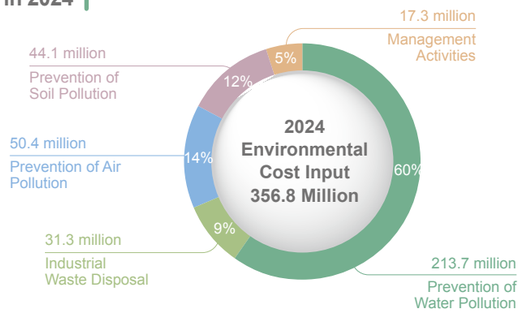
In 2024, the Group invested NT$356.8 million in environmental management, about 4.5% of total production value - similar to 2023. Expense details by category are shown below.

Historical Environmental Management Expenditures

(Unit: NT$ million)

Items / Year	2020	2021	2022	2023	2024	Percentage (%)
Prevention of Water Pollution	144.2	179.7	178.3	176.0	213.7	60%
Industrial Waste Disposal	71.9	94.3	99.8	47.4	31.3	9%
Prevention of Air Pollution	40.8	43.9	41.1	42.5	50.4	14%
Prevention of Soil Pollution	11.4	13.6	20.7	48.7	44.1	12%
Management Activities	12.3	14.8	18.9	18.8	17.3	5%
Total	280.6	346.3	358.8	333.4	356.8	100%

Proportion of Environmental Management Costs in 2024

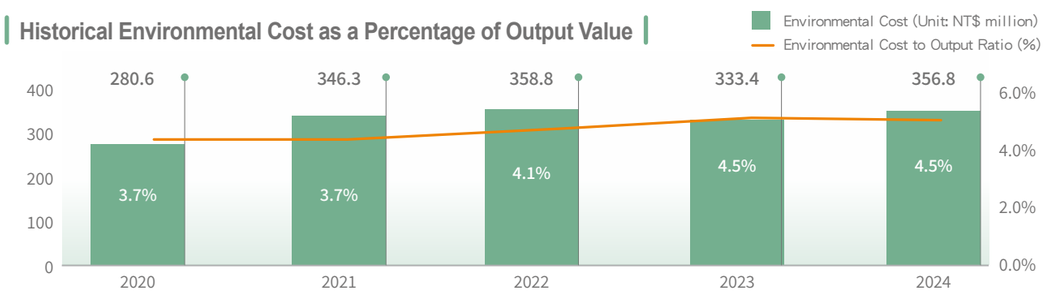


Historical Environmental Cost as a Percentage of Output Value

Items / Year	Environmental Management Cost	Environmental Cost-to-Output Ratio (%)
2020	280.6	3.7%
2021	346.3	3.7%
2022	358.8	4.1%
2023	333.4	4.5%
2024	356.8	4.5%

(Unit: NT$ million)

Historical Environmental Cost as a Percentage of Output Value



Based on historical data, the distribution and changes in environmental costs in 2024 exhibit the following trends:

- **Stable overall investment:**
  Environmental spending increased by NT$23.4 million from 2023, remaining at 4.5% of total production value.
- **Water pollution control is the largest expense:**
  NT$2,137 million - highest on record, showing a rising trend.
- **Waste treatment costs decreased:**
  NT$31.3 million, down NT$16.1 million from 2023, reflecting better recycling rates.
- **Air and soil pollution control remained steady:**
  NT$50.4 million and NT$44.1 million respectively, similar to 2023 levels.

III. Water Stewardship*(Material Topic)

(GRI 303-1)(GRI 303-2)(GRI 303-3)(GRI 303-4)(GRI 303-5)

Water management focuses on recycling and withdrawal. Using World Resources Institute's (WRI) Aqueduct tool, Everlight (Suzhou) Advanced Chemicals Ltd. was identified as water-stressed. In response, we standardized water use and improved recycling to reduce freshwater reliance. Impact assessments and management approaches are as follows:

Material Topic #3	Water Stewardship
Impact Assessment	**Positive:** Reduces dependence on natural water sources, protects ecosystems, and improves water use efficiency **Negative:** High costs and limited suitability may affect efficiency. High water use could compete with community resources.
Management Policies & Commitments (GRI 2-23) (GRI 2-24) (RT-CH-530a.1)	The Company is committed to enhancing the water recovery rate (R2), optimizing water intake strategies, improving water use efficiency, reducing environmental impacts, and achieving sustainable water resource management.
Governance Structure	• **Headquarters:** "Environmental Management Committee" • **Plant Sites:** Environmental Management Task Force and Dedicated Environmental Protection Units
Management Actions	• Install additional water recovery measures and conduct water usage data surveys. • Regularly assess the risk of operational sites being located in water-stressed regions.
Resource Allocation	• Establish water recovery systems. • Utilize the Aqueduct Water Risk Atlas developed by the World Resources Institute (WRI) to assess water resource impacts.
Indicators & Targets (RT-CH-150a.1)	Management Indicator / 2024 Target / 2030 Target Water Recovery Rate R2 (%) / ≥ 94% / ≥ 95% Total Water Withdrawal (ML) / ≤ 872 / ≤ 872 **Indicator Definitions:** • Water Recovery Rate R2 (%) = 〔(Total Recycled Water Volume + Total Circulated Water Volume)/(Total Water Withdrawal + Total Recovery Water Volume + Total Circulated Water Volume)〕x100% • Total Water Withdrawal (ML) = Sum of total water intake items (tap water, groundwater, and industrial water)
Evaluation Mechanism	• Environmental Management Review (once per year) • "Sustainability Development Committee" Meeting (twice per year) • Plant Policy and Plan Review (once per quarter) • Internal Environmental Management System Audit (once per year) • External Audit of Environmental Management System by DNV (once per year)
Methods to Ensure Effective Actions	• Monitoring: Regular EHS Review Meetings follow the PDCA cycle to track and improve environmental goals. • Evaluation: Annual reviews assess target achievement. • Outcomes: Progress made in green chemistry and circular economy, with ongoing efforts in atom efficiency, process optimization, carbon reduction, and environmental outreach.
2024 Execution Results	• Water Recovery Rate R2 (%) = 92 • Total Water Withdrawal (ML) = 628.5
Communication with Stakeholders	Key stakeholders include shareholders, customers, suppliers, communities, and government agencies. Communication occurs through both regular and irregular basis.

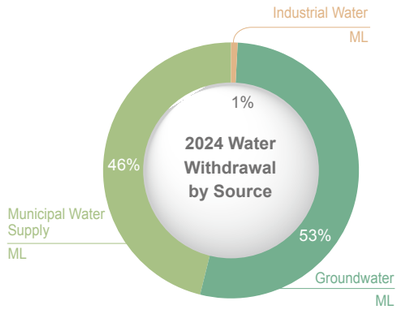
Water Withdrawal Management & Resource Assessment

Water is a vital shared resource. The Company monitors water use across all sites and assesses water stress risks to ensure effective management. In 2024, Everlight (Suzhou) Advanced Chemicals Ltd. withdrew 62.5 ML of water, a slight 1% decrease from 2023 (63.3 ML), with no significant variation. Water recovery continues to improve through standardized practices.

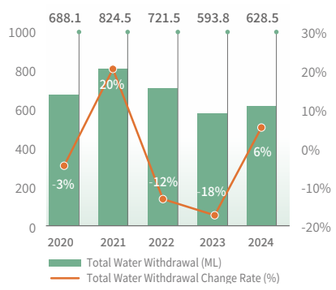
Using the WRI's Aqueduct Water Risk Atlas, the site was identified as being in a high water-stress area, with water used mainly for domestic and production needs. In 2024, the site reported 62.5 ML in water withdrawal, 30.2 ML in discharge, and 32.3 ML in consumption.

Water Sources & Allocation

The Group's production sites use groundwater, municipal, and industrial water. Water withdrawal planning considers government policies, corporate development, industrial transformation, and the needs of surrounding communities. For instance, in collaboration with local authorities, the Company has established groundwater withdrawal points within plant sites to provide water for public use during droughts. This initiative ensures responsible water allocation and distribution, while minimizing potential impacts on local ecosystems and community water availability.



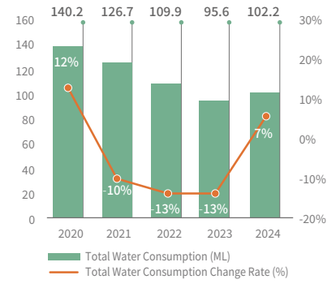
Historical Total Water Withdrawal



2020-2024 Total Water Withdrawal & Consumption Statistics

In 2024, total water withdrawal reached 628.5 ML, with groundwater making up 53% and municipal water 46.5%. Water consumption was 102.2 ML. Compared to 2023, withdrawal rose by 5.8% and consumption by 6.8%, mainly due to increased production demand. Long-term trends show improved efficiency: withdrawal dropped from 824.5 ML in 2021 to 628.5 ML in 2024, while consumption declined from 140.2 ML in 2020 to 102.2 ML in 2024. Through better water management, efficiency gains, waste reduction, and efforts to explore alternative sources, the Company continues to promote sustainable water use.

Historical Total Water Consumption



2020-2024 Water Withdrawal & Consumption at Plant Sites

Sites	Year	Municipal Water (ML)	Groundwater (ML)	Industrial Water (ML)	Total Water Withdrawal (ML)	Total Water Consumption (ML) [Note 2]
Plants I to IV	2020	215.8	407.9	2.6	626.3	114.5
	2021	229.3	514.9	3.8	748.0	86.1
	2022	200.2	435.5	5.5	641.2	65.4
	2023	198.7	312.9	4.0	515.6	59.1
	2024	213.7	332.8	3.4	549.9	66.8
Trend Tone Imaging, Inc.	2020	17.3	-	-	17.3	3.4
	2021	18.5	-	-	18.5	3.7
	2022	18.7	-	-	18.7	3.8
	2023	14.9	-	-	14.9	3.0
	2024	16.1	-	-	16.1	3.2

Sites	Year	Municipal Water (ML)	Groundwater (ML)	Industrial Water (ML)	Total Water Withdrawal (ML)	Total Water Consumption (ML) [Note 2]
Everlight (Suzhou)	2020	44.5	-	-	44.5	22.3
	2021	58.0	-	-	58.0	36.9
	2022	61.6	-	-	61.6	40.7
	2023	63.3	-	-	63.3	33.5
	2024	62.5	-	-	62.5	32.3
Total	2020	277.6	407.9	2.6	688.1	140.2
	2021	305.8	514.9	3.8	824.5	126.7
	2022	280.5	435.5	5.5	721.5	109.9
	2023	276.9	313.0	4.0	593.8	95.6
	2024	292.3	332.8	3.4	628.5 [Note 3]	102.2

Note 1: Office sites are excluded due to minimal environmental impact; data focuses on plant sites.
Note 2: Total water consumption = Total water withdrawal - Discharge volume.
Note 3: 1 ML = 1,000 m^3; thus, in 2024, the total water withdrawal of plant sites amounted to 628.5 thousand m^3.
Note 4: All data in the above table are rounded to one decimal place.
Note 5: All water withdrawal is freshwater with a total dissolved solids (TDS) content ≤ 1,000 mg/L, with units presented in ML.

Water Sources by Site

Water Recovery & Reuse

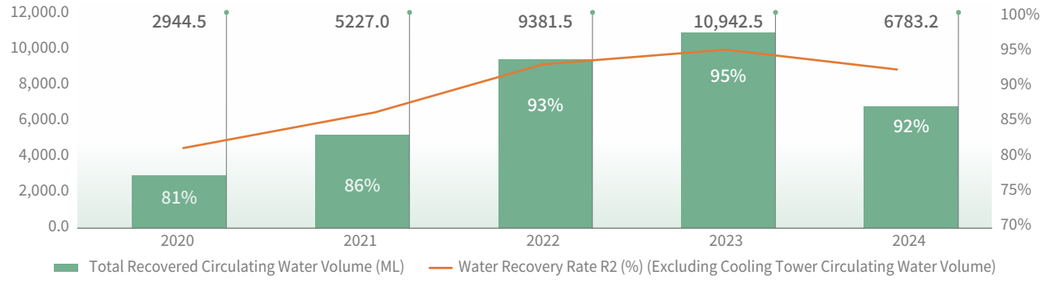
To reduce water use, the Company implements water-saving measures such as process water recovery and reuse. The R2 recovery rate (excluding cooling tower water) serves as a key indicator to track performance, support ongoing improvements, and align with environmental goals.

2024 Water Recycling Achievements

In 2024, the Company achieved a water recovery rate (R2) of 92%, with 6,783.2 ML of recovered and recirculated water - equivalent to 2,713 standard swimming pools [Note 1].

From 2020 to 2024, despite fluctuations in total recovery volume, the recovery rate steadily improved from 81% to 92%, showing continuous gains in water efficiency.

Water Resource Recovery Volume and Recovery Rate



In 2024, production grew 12% while water withdrawal rose only 5.8%, highlighting the effectiveness of recovery systems and water-saving technologies in managing water intensity.

Note 1: Based on the standard swimming pool dimensions (50 m × 25 m × 2 m) defined by the Swimming Association of the Republic of China, the capacity of one pool is approximately 2.5 ML. Therefore, 6,783.2 ML is equivalent to about 2,713 pools.

2020-2024 Total Recycled & Circulating Water Volume Statistics

(Unit: ML)

Items	Method	2020	2021	2022	2023	2024
Total Recycled Water Volume	Condensate/Rainwater Recycled Volume	45.2	54.6	49.1	20.5	21.1
	Process Wastewater Recovered Volume	353.3	392.1	334.4	249.9	263.7
	(Total Secondary Recycled Water Volume)	11.5	27.8	30.1	12.8	13.3
Total Circulating Water Volume	Scrubber Circulating Water Volume	2,534.5	4,752.5	8,967.9	10,659.3	6,485.1
Total Recovered Water Volume + Total Circulating Water Volume (ML)		2,944.5	5,227	9,381.5	10,942.5	6,783.2
Water Recovery Rate R2 (excluding Cooling Tower Circulating Water) (%)		81%	86%	93%	95%	92%

In 2024, the water recovery rate reached 92%, meeting the revised 2025 target but slightly below the original 94%. Targets were adjusted to 92% for 2025 and 95% for 2030 based on improved monitoring accuracy. Total water withdrawal was 628.5 ML, well below the target of 872 ML, reflecting effective water management and alignment with sustainability goals

Historical Water Resource Management Performance & Target Achievement

In 2024, the performance of all water resource management indicators successfully met the annual targets, demonstrating the effectiveness of the Company's water management strategies.

Management Indicators	Actual Performance					2024 Target	Mid-term Target (2025)	Long-term Target (2030)
	2020	2021	2022	2023	2024			
Water Recovery Rate R2 (%)	81	86	93	95	92	≧ 94	≧ 92	≧ 95
Total Water Withdrawal (ML)	688.1	824.5	721.5	593.8	628.5	≦ 872	≦ 872	≦ 872

IV. Pollution Prevention*(Material Topic) (GRI 2-23)(GRI 2-24)(GRI 305-7)

Pollution prevention is a key focus in manufacturing, covering air, water, and waste management. We reduce emissions through robust controls, advanced technologies, and regulatory compliance, while promoting recycling, green manufacturing, and alternative solutions to enhance environmental performance and drive continuous pollution prevention efforts.

Material Topic #4	Pollution Prevention
Impact Assessment	**Air Pollution** **Positive:** Improves air quality, lowers health risks and related costs. **Negative:** Poor policy enforcement may undermine emission reductions, harm ecosystems, and impact community health. **Wastewater Management** **Positive:** Reduces water pollution, improves water quality, supports reuse, protects ecosystems, and enhances corporate image. **Negative:** Requires costly upgrades and maintenance, increases technical and operational burdens, and may lead to community impacts if not properly managed. **Waste Management** **Positive:** Reduces pollution, conserves resources, supports the circular economy, and raises environmental awareness. **Negative:** High technical barriers, costs, and limited infrastructure may hinder efficiency. Poor waste management may increase risks and impact surrounding communities.

Material Topic #4	Pollution Prevention
Management Policies & Commitments (GRI 2-23) (GRI 2-24) (RT-CH-530a.1)	Aligned with our environmental policy and risk strategy, the Company is committed to sustainability. We adopt best available technologies to reduce air emissions, optimize wastewater treatment for compliance and monitoring, and promote waste reduction, recycling, and proper disposal to minimize environmental impact.
Governance Structure	• **Headquarters:** "Environmental Management Committee" • **Plant Sites:** Environmental Management Teams and dedicated environmental protection units
Management Actions	• Comply with air pollution regulations and implement appropriate control measures. • Use cleaner energy and improve processes to reduce SOx and NOx emissions. • Follow emission standards for stationary sources and continuously improve air quality performance. • Improve wastewater treatment efficiency and regularly monitor effluent quality. • Establish a "Circular Economy Promotion Committee" to drive waste reduction, resource recovery, and progress toward zero emissions and zero waste.
Resource Allocation	• Adoption of clean fuels • Installation of additional pollution control equipment • Improved operational efficiency and reliability of control equipment • Optimization of wastewater treatment systems • Promotion of circular economy and green chemistry practices
Indicators & Targets (RT-CH-150a.1)	**Management Indicator** / **2024 Target** / **2030 Target** **Reduction Rate of Air Pollutant Emissions per Unit Production (%)**: ≥ 2% / ≥ 4% **Wastewater Treatment Compliance Rate (%)**: 100% / 100% **Waste Recycling & Reuse Rate (%)**: ≥ 71% / ≥ 80% **Hazardous Industrial Waste Recycling & Treatment Ratio (%)**: ≥ 6.3% / ≥ 8.3% **Indicator Definitions:** Air Pollution •Reduction Rate of Air Pollutant Emissions per Unit Production (%) = 1 - (Total Air Pollutant Emissions (kg) / Production Volume (tons)) / Baseline × 100% Wastewater Treatment • Wastewater Treatment Compliance Rate (%) = (Volume of Treated Waste water Meeting Regulatory Standards/Total Waste water Discharge Volume) × 100% Waste Management • Waste Recycling & Reuse Rate (%) = (Volume of Business Waste Recycled & Reused / Total Volume of Business Waste Generated) × 100% • Hazardous Industrial Waste Recycling & Treatment Ratio (%) = (Volume of Hazardous Industrial Waste Recycled & Treated / Total Volume of Hazardous Industrial Waste Generated) × 100% • Reduction Rate of Hazardous Waste per Unit Production (%) = 1 - (Total Hazardous Waste(kg) / Production Volume(tons)) / Baseline × 100% [Note 1]
Evaluation Mechanism	• Environmental Management Review: Once per year • Sustainability Development Committee Meetings: Twice per year • Plant Policy & Plan Review: Once per quarter • Internal Environmental Management System Audit: Once per year • External Environmental Management System Audit by DNV: Once per year
Methods to Ensure Effective Actions	• Process Tracking: Regular EHS Management Review Meetings are held under the PDCA cycle to review and improve progress on environmental goals. • Action Effectiveness: Annual audits verify achievement of set objectives. • Lessons Learned: The Company has achieved results in green chemistry and circular economy initiatives, and continues to improve atom utilization and processes to lower product carbon footprints. It also engages in community and educational efforts to raise environmental awareness.
2024 Execution Results	• Reduction Rate of Air Pollutant Emissions per Unit Production (%) = -7.3 • Wastewater Treatment Compliance Rate (%) = 100 • Waste Recycling & Reuse Rate (%) = 78 • Hazardous Industrial Waste Recycling & Treatment Ratio (%) = 13.5 • Reduction Rate of Hazardous Waste per Unit Production (%) = 18.7
Communication with Stakeholders	Key stakeholders include shareholders, customers, suppliers, communities, and government agencies. Communication occurs through both regular and irregular basis.

Note 1: The Hazardous Waste Reduction Rate per Unit of Production (%) was established as a new management indicator in the second half of 2024. The reduction targets are set at 15% by 2025 and 20% by 2030.

1. Air Pollution Control & Noise Management

1.1 Air Pollution Prevention & Control

The Company complies with and often exceeds government regulations by actively implementing air pollution control measures. We prioritize the use of low-pollution clean energy and optimize production processes to effectively reduce emissions of sulfur oxides (SOx) and nitrogen oxides (NOx). We also closely monitor regulatory changes, such as the Emission Standards for Hazardous Air Pollutants from Stationary Sources, and adjust operations accordingly to ensure compliance. In 2024, no sites were subject to major fines (over NT$1 million) or non-monetary penalties for violations of air pollution regulations. In addition, we follow the standardized "3-A3-10 Waste Gas Control Procedure" to ensure the stable operation of pollution control equipment, supported by continuous monitoring and improvement plans.

Emission data is calculated using regulatory methods, including emission factors, testing reports, and verified on-site data, with component-level emissions based on test results to ensure accuracy.

From 2020 to 2024, major air pollutant emissions (excluding VOCs) declined. Due to a product mix adjustment, the 2023 baseline emission intensity was revised from 1.98 to 2.1 kg/ton. In 2024, intensity fell another 7%, despite increased production of higher-emission products. The Sustainable Development Committee reviews environmental indicators semiannually. Since mid-2024, six Board members have joined the committee to strengthen governance and environmental oversight.

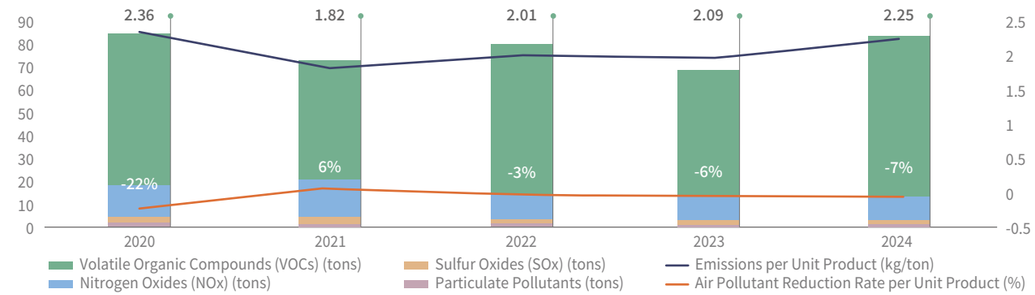
2020-2024 Air Pollutant Emissions Statistics [Note 1] (Unit: metric tons) [Note 2]

Sites	Year	(1) Particulate Pollutants	(2) Sulfur Oxides (SOx)	(3) Nitrogen Oxides (NOx)	(4) Volatile Organic Compounds (VOCs)	(1)+(2)+(3)+(4)
Plants I to IV	2020	0.78	3.06	13.78	63.14	80.76
	2021	0.86	3.05	16.55	49.94	70.40
	2022	0.75	2.25	11.54	62.89	77.43
	2023	0.59	2.03	9.90	54.90	67.42
	2024	0.61	2.02	10.12	68.37	81.12
Trend Tone Imaging, Inc.	2020	-	-	-	1.42	1.42
	2021	-	-	-	1.95	1.95
	2022	-	-	-	1.37	1.37
	2023	-	-	-	1.10	1.10
	2024	-	-	-	1.14	1.14
Everlight (Suzhou)	2020	1.15	-	-	0.57	1.72
	2021	0.46	-	-	0.27	0.73
	2022	0.54	-	-	0.96	1.50
	2023	0.46	-	-	0.37	0.83
	2024	0.73	-	-	0.78	1.51

Note 1: Environmental indicator data are collected from the Company's manufacturing sites.
Note 2: All figures are in metric tons, based on annual regulatory reports and rounded to two decimal places.

The Company tracks the "Air Pollutant Emission Reduction Rate per Unit of Production" as a key indicator, using site data from 2020-2024 to monitor progress toward the 2025 target. PM2.5 is not currently included; focus remains on VOCs, particulates, SOx, and NOx.

Historical Air Pollutant Emissions and Intensity Trends



Emissions fell from 83.90 metric tons in 2020 to 69.35 in 2023, then rose to 83.77 in 2024. Despite this, emission intensity remained stable at around 2 kg per ton, with fluctuations mainly due to changes in production volume and product mix-not control system performance.

Historical Data on Air Pollutant Emission Reduction Rate per Unit of Production [Note 1] (Unit: tons)

Year	2020	2021	2022	2023	2024	Mid-term Target (2025)
Total Air Pollutant Emissions from All Sites	83.90	73.08	80.30	69.35	83.77	-
Total Production Output from All Sites	35,561	40,120	40,323	33,118	37,177	-
Air Pollutant Emissions per Unit of Production [Note 2]	2.36	1.82	2.01	2.09 [Note 4]	2.25	-
Air Pollutant Emission Reduction Rate per Unit of Production (%)	-22	6	-3	-6	-7 [Note 3]	≧ 3

Note 1: Environmental indicator data are collected by individual plant sites.
Note 2: Emissions per unit of production = total emissions (kg) of particulates, SOx, NOx, and VOCs / total production volume (tons).
Note 3: Reduction rate = 1 - (emissions per ton ÷ baseline (2.1)) × 100. The 2023 baseline of 1.98 kg/ton was updated due to changes in product mix.
Note 4: 2023 emissions per unit were revised from 1.98 to 2.09 kg/ton due to a data entry error, to ensure accuracy.

1.2 Perimeter Noise Control & Management

The Company conducts regular perimeter noise monitoring to ensure compliance and protect employees and nearby communities. Plants I-IV follow the "3-A3-13 Noise Management Regulations" with semi-annual internal or annual third-party checks. Everlight (Suzhou) Advanced Chemicals Ltd. conducts quarterly external monitoring, while Trend Tone Imaging, Inc. follows Hsinchu Science Park Bureau requirements. All 2024 results met regulatory standards. The Company remains committed to maintaining a safe and compliant acoustic environment.

2. Wastewater Management (GRI 303-4)

Wastewater Discharge Management & Water Pollution Prevention

Each site develops wastewater treatment plans based on the characteristics of its process effluent. Pollution sources from each process are reduced, classified, and treated using appropriate technologies to effectively lower pollutant levels. We regularly monitor wastewater quality through third-party sampling or self-testing based on official methods to ensure compliance with regulatory standards. All operating sites have obtained discharge permits as required by local authorities, ensuring that effluent quality meets standards and helps protect water resources and the ecological environment.

Domestic and industrial wastewater is directed to local industrial zone or municipal sewage systems. For example: Plant I is connected to the Dayuan Industrial Zone Discharge Management System; Plant II and Plant III are connected to the Guanyin Industrial Zone Wastewater Treatment Plant; Plant IV is connected to the Taoyuan Technology Industrial Park Wastewater Treatment Plant; Trend Tone Imaging, Inc. and Everlight (Suzhou) Advanced Chemicals Ltd. are connected to the Hsinchu Science Park Sewage Treatment Plant, and the Suzhou Industrial Park Sewage Treatment Plant.

Wastewater Treatment Overview

All discharged water met applicable standards in 2024, with no major fines (over NT$1 million) or non-monetary penalties related to water regulations were imposed during the year.

Wastewater Management & Discharge Indicators

The Company uses the Wastewater Treatment Compliance Rate (%) as a key indicator, calculated as: (Compliant discharge volume / Total discharge volume) × 100%.

From 2021 onward, wastewater discharge at Plants I to IV peaked and then gradually declined, while Trend Tone Imaging, Inc. remained stable. In 2024, total wastewater discharge rose by 5.6% from 2023, mainly due to a 12% increase in production volume.

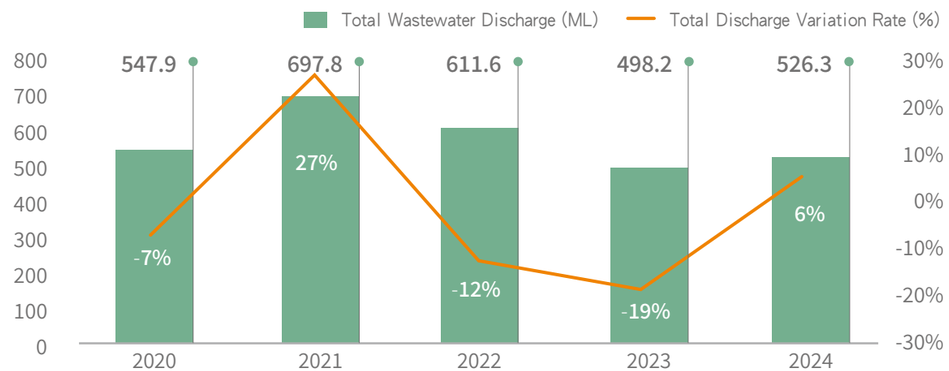
2020-2024 Wastewater Discharge Volume Statistics

(Unit: ML)

Plant / Year	2020	2021	2022	2023	2024
Plants I to IV	511.8	661.9	575.8	456.5	483.2
Trend Tone Imaging, Inc.	13.9	14.8	14.9	11.9	12.9
Everlight (Suzhou)	22.2	21.1	20.9	29.8	30.2
Total Discharge Volume	547.9	697.8	611.6	498.2	526.3

To enhance wastewater management, the Company prioritizes monitoring COD, SS, ammonia nitrogen, and nitrate nitrogen, ensuring compliance with local standards. In 2024, all sites maintained discharge concentrations within regulatory limits.

Historical Wastewater Discharge Volumes



Key Discharge Disclosure Indicators

Focus Items	COD (mg/L)				
Site	Plant I	Plant II	Plant III	Plant IV	Everlight (Suzhou)
Average Discharge Concentration	5.7	111.6	91.1	12.6	61.8
Regulatory Standard	100	560	560	350	300
Focus Items	**SS (mg/L)**				
Site	Plant I	Plant II	Plant III	Plant IV	Everlight (Suzhou)
Average Discharge Concentration	7.7	21.1	5.5	3.1	8.5
Regulatory Standard	30	480	480	200	400
Focus Items	**Ammonia Nitrogen (mg/L)**				
Site	Plant I	Plant II	Plant III	Plant IV	Everlight (Suzhou)
Average Discharge Concentration	13.9	32.7	15.4	1.6	8.9
Regulatory Standard	60	75	75	70	50
Focus Items	**Nitrate Nitrogen (mg/L)**				
Site	Plant I	Plant II	Plant III	Plant IV	Everlight (Suzhou)
Average Discharge Concentration	2.2	0.6	27.6	2.8	-
Regulatory Standard	50	50	50	100	-

Historical Performance of Water Pollution Control Management Indicators & Targets

In 2024, all sites met their annual water pollution control targets, reflecting effective water management. The Company will continue to uphold this standard and advance water resource initiatives.

Management Indicator	Actual Performance						2024 Target	Mid-term Target (2025)
	2019	2020	2021	2022	2023	2024		
Wastewater Treatment Compliance Rate (%)	100	100	100	100	100	100	100	100

3. Waste Management (GRI 306-1)(GRI 306-2)(GRI 306-3)(GRI 306-4)(GRI 306-5)(RT-CH-150a.1)

The Company is committed to effective reuse of materials throughout raw material sourcing, product supply, manufacturing processes, pollution control, and daily operations. This includes reverse recycling and refillable use between suppliers and customers to maximize resource utilization. This chapter covers waste management indicators and performance across all manufacturing subsidiaries, including Everlight (Suzhou) Advanced Chemicals Ltd. and Trend Tone Imaging, Inc. As of 2024, no sites were subject to major fines (over NT$1 million) or non-monetary penalties for violations of waste-related laws or regulations.

Waste Management Process

Waste Management Performance

The Company monitors key indicators, including waste recycling and utilization rate, proper treatment rate of hazardous industrial waste, and its recycling ratio. To align with stakeholder expectations, the 2025 target for waste recycling and utilization has been raised from 72% to 79%, and a new metric - hazardous waste reduction per unit of production - has been introduced. Short-term efforts focus on reinforcing current practices and executing site-specific improvement plans, while long-term goals will be pursued through process optimization and source reduction.

2024 Waste Management Performance

In 2024, the Company generated 8,422.6 tons of industrial waste, a 2.2% decrease from 2023. Of this, 6,559.3 tons were recycled, achieving a 78% recycling rate. Hazardous waste recycling reached 200.5 tons, with a treatment ratio of 13.5%.

To enhance waste management, the "Circular Economy Promotion Committee" set a target to reduce hazardous waste generation per unit of production by 20% by 2030, using 2021 as the baseline. By 2024, this indicator had dropped to 39.9 kg/ton - a reduction of 18.7% - demonstrating strong progress.

Between 2020 and 2024, total industrial waste showed a steady decline. General waste fell from 7,447.6 tons to 6,940.4 tons, while hazardous waste, after peaking in 2021, also declined. Waste intensity (waste per production value) improved slightly to 1.1 in 2024, indicating enhanced efficiency in waste reduction efforts.

2020-2024 Waste Disposal & Generation

(Unit: tons) [Note 2]

Sites	Year	Category	Disposal Method				Category Total Generation [Note 4]	Total Waste Generation [Note 5]
			Reuse & Recycling [Note 3]	Incineration	Landfilling	Temporary Storage Inventory Adjustment		
Plants I to IV	2020	Hazardous	46.9	1,372.0	0	34.4	1,453.3	8,634.8
		Non-hazardous	6,184.1	416.5	531.4	49.5	7,181.5	
	2021	Hazardous	64.4	1,727.2	0	61.6	1,853.2	10,874.4
		Non-hazardous	7,892.6	391.7	660.6	76.3	9,021.2	
	2022	Hazardous	60.2	1,598.4	0	-44.3	1,614.3	10,102.9
		Non-hazardous	7,403.5	557.3	662.0	-134.2	8,488.6	
	2023	Hazardous	123.6	1,591.2	0	-32.4	1682.4	8,175.1
		Non-hazardous	5,757.4	367.4	402.3	-34.4	6,492.7	
	2024	Hazardous	182.2	1,258.4	0	-10.7	1,429.9	8,229.9
		Non-hazardous	6,261.6	365.2	124.8	48.4	6,800.0	
Trend Tone Imaging, Inc.	2020	Hazardous	0	0.4	0	0	0.4	246.0
		Non-hazardous	62.8	167.9	14.9	0	245.6	
	2021	Hazardous	0	0.2	0	0	0.2	306.8
		Non-hazardous	35.3	146.7	63.3	61.3	306.6	
	2022	Hazardous	0	0	0	0	0	289.8
		Non-hazardous	47.7	126.8	176.6	-61.3	289.8	
	2023	Hazardous	0	0	0	0	0	253.9
		Non-hazardous	95.3	104.5	54.1	0	253.9	
	2024	Hazardous	0	0.2	0	0	0.2	83.7
		Non-hazardous	51.7	31.8	0	0	83.5	
Everlight (Suzhou)	2020	Hazardous	0	192.8	0	0	192.8	213.3
		Non-hazardous	20.5	0	0	0	20.5	
	2021	Hazardous	0	117.4	0	0.4	117.8	134.3
		Non-hazardous	15.4	0	0	1.1	16.5	
	2022	Hazardous	12.9	65.6	0	0.6	79.1	104.7
		Non-hazardous	10.5	16.2	0	-1.1	25.6	
	2023	Hazardous	57.7	22.2	0	-1.0	78.9	187.0
		Non-hazardous	91.2	16.9	0	0	108.1	
	2024	Hazardous	18.3	33.8	0	0	52.1	109.0
		Non-hazardous	45.5	11.4	0	0	56.9	

Note 1: Due to the minimal environmental impact of office sites, only data from plant sites is disclosed.
Note 2: Figures include both declared and non-declared waste (e.g., scrap iron, plastics, and paper recorded via weighbridge slips), expressed in tons.
Note 3: "Reuse and recycling" covers publicly announced recyclable/reusable items and those reused after intermediate treatment.
Note 4: "On-site storage" refers to the year-end storage volume; other disposal figures are cumulative monthly totals, rounded to one decimal place.
Note 5: Total waste generation = total waste disposal volume + net change in storage volume.
Note 6: 2024 data includes on-site treatment: 990.56 tons of hazardous waste incinerated at Plant I and 18.3 tons of permeate reused from the ink process at Everlight (Suzhou) Advanced Chemicals Ltd.; all other quantities refer to off-site disposal.

2020-2024 Hazardous Industrial Waste Generation per Unit of Production Statistics

Items / Year	2020	2021	2022	2023	2024	2025 Target	2030 Target
Total Hazardous Waste (tons)	1,646.5	1,971.2	1,693.4	1,761.3	1,482.2		
Production Volume (tons)	35,561.0	40,120.1	40,323.3	33,119.0	37,177.4		
Hazardous Waste Generation per Unit of Production (kg/ton)	46.3	49.1	42.0	53.2	39.9	41.8	39.3
Hazardous Waste Reduction Rate (%)	-	-	14.5%	-8.4% [Note 1]	18.7%	15%	20%

Note 1: In 2023, the reduction rate declined due to increased hazardous waste from scheduled wastewater tank cleaning at Plant III.

2020-2024 Waste Disposal Statistics

(Unit: tons)

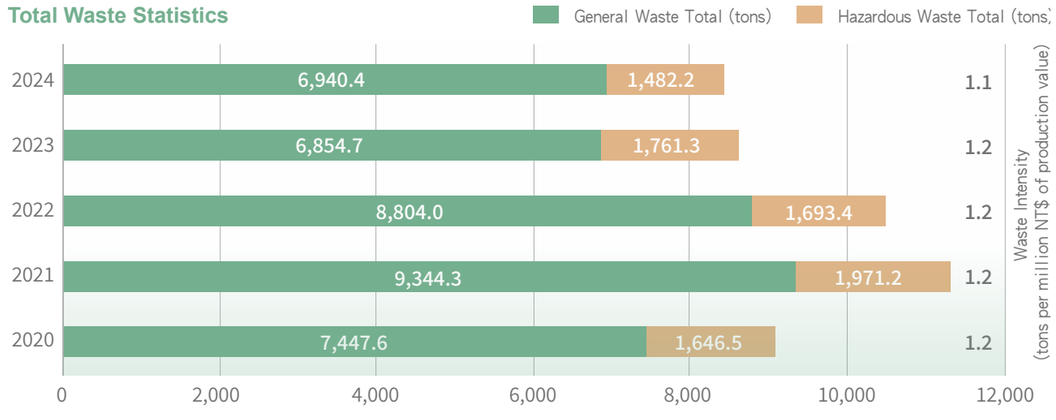
Items / Year	2020	2021	2022	2023	2024
Recycled & Reused Volume (1)	6,314.3	8,007.7	7,534.8	6,125.2	6,559.3
Directly Treated Volume (2)	2,695.9	3,107.1	3,202.9	2,568.6	1,825.6
Change in Temporary Storage Volume (3)	83.9	200.7	-240.3	-67.8	37.7
Total Waste Generated (1)+(2)+(3)	9,094.1	11,315.5	10,497.4	8,616.0	8,422.6

2020-2024 Waste Intensity

(Unit: tons)

Management Indicator/Year	2020	2021	2022	2023	2024
Total General Waste	7,447.6	9,344.3	8,804.0	6,854.7	6,940.4
Total Hazardous Waste	1,646.5	1,971.2	1,693.4	1,761.3	1,482.2
Total Waste Generated	9,094.1	11,315.5	10,497.4	8,616.0	8,422.6
Waste Intensity (per million NT$ of production value)	1.2	1.2	1.2	1.2	1.1

Total Waste Statistics



Historical Waste Management Indicators & Mid-Term Target Performance

Management Indicators	2020	2021	2022	2023	2024	Mid-term Targets (2025)
Waste Recycling Rate (%)	69	71	72	71	78	≧ 79 [Note 1]
Proper Treatment Rate of Hazardous Industrial Waste (%)	100	100	100	100	100	100
Recycling Treatment Ratio of Hazardous Industrial Waste (%)	2.8	3.3	4.3	10.3	13.5	≧ 7.3
Reduction Rate of Hazardous Waste per Unit Production (%)	-	-	14.5	-8.4 [Note 2]	18.7	≧ 15

Note 1: The 2025 waste recycling rate target was raised from 72% to 79%, reflecting a stronger commitment to recycling. Short-term efforts will focus on reinforcing current measures and executing plant-level improvement plans.
Note 2: In 2023, hazardous waste increased temporarily due to scheduled wastewater tank cleaning at Plant III, leading to a short-term dip in the reduction rate.

Waste Reduction

The Company promotes process recycling and technological innovation to reduce waste and enhance resource recovery. Key measures include:

- **By-product recovery:**
  - Recycling dilute acid and iron sludge into ferrous sulfate for wastewater treatment.
  - Regenerating phosphorus solutions into reusable phosphates.
- **Membrane technology:** Improves solvent recovery efficiency.
- **Packaging reuse:** Collecting and reusing bulk bags, one-way drums, and plastic bags.
- **Solvent management:** Optimized inventory and recovery reduce incineration volumes; some recovered solvents are sold as cleaning agents.
- **External circular use:** By-product zinc sulfate is supplied for zinc oxide production, reducing waste at the source.

Other examples of resource recycling and reuse can be found in Chapter 5: "Circular Economy."

V. Greenhouse Gas & Energy Management (GRI 2-23)(GRI 2-24)(GRI 305-1)(GRI 305-2)(GRI 305-4)

The Company addresses climate and GHG reduction goals through energy efficiency measures and energy management systems. Regular GHG inventories and reduction programs help mitigate climate risks. Plants I-III began ISO 50001 implementation in 2022 and were certified in 2023. By 2024, Plants I-IV and Trend Tone Imaging, Inc. were all certified, supported by training and knowledge sharing to enhance energy performance and risk management.

Impact Assessment	**Positive Impacts:**Reduces carbon emissions, improves energy efficiency and air quality, lowers energy costs and carbon fees, and enhances corporate value and capital market evaluations. **Negative Impacts:** May lead to increased energy consumption and higher capital expenditures, particularly during equipment upgrades. This could result in higher emissions and impose financial pressure.
Management Policies & Commitments (GRI 2-23) (GRI 2-24) (RT-CH-530a.1)	Energy Management Policy: "To enhance energy performance and progress towards net-zero sustainability."
Governance Structure	• **Head Office:** "Environmental Management Committee" • **Plant Sites:** Environmental Management Task Force and Dedicated Environmental Protection Units
Management Actions	We adopt the following approaches to reduce and control GHG emissions: • Optimize processes and equipment • Implement innovative management practices • Conduct GHG inventories per ISO 14064-1 or regulatory standards • Continuously promote reduction measures
Resource Allocation	Since 2022, the Company has adopted the latest ISO 14064-1 and ISO 50001 standards, completing certification for both. In 2024, a Group-wide GHG inventory was conducted and verified by a third-party in line with ISO 14064-1. Plants I - IV and Trend Tone Imaging also achieved ISO 50001 certification. • Adopting energy-efficient equipment. • Implementing a systematic energy management framework. • Investing in renewable energy infrastructure. • Establishing a Climate Change Task Force. • Enhancing the energy efficiency of products.
Indicators & Targets (RT-CH-150a.1)	**Management Indicators & Targets** / **2024 Target** / **2030 Target** **Power saving (%)** / ≥ 1% / ≥ 1.5% **GHG Emission Intensity (tCO_2e per million production value)** / Original ≤ 8.3, Revised ≤ 8.96 / ≤ 7.3 **Energy Intensity (GJ per million production value)** / ≤ 71 / ≤ 70 **Indicator Definitions:** • Power Saving (%) = (Power Saved / (Total Power Consumption + Power Saved)) × 100% • GHG Emission Intensity = Total GHG Emissions (Scope 1 + Scope 2, tCO_2e) / per million production value • Energy Intensity = Total Energy Consumption (GJ) / per million production value
Evaluation Mechanism	• Environmental Management Review (once per year). • "Sustainable Development Committee" meetings (twice per year). • Site Policy & Plan Review (once per quarter). • Internal Environmental Management System Audit (once per year). • External Environmental Management System Audit by verification body (DNV) (once per year).
2024 Execution Results	• Electricity Savings (%): 3.2 • GHG Emissions Intensity (tCO_2e / million production value): 8.92 • Energy Intensity (GJ / million production value): 71
Communication with Stakeholders	Key stakeholders include shareholders, customers, suppliers, communities, and government agencies. Communication occurs through both regular and irregular basis.

1. Energy Management & Consumption Analysis (GRI 302-1)(GRI 302-3)(GRI 302-4)(GRI 305-1)(GRI 305-2)

In 2024, total energy consumption across plant sites reached approximately 556.31×10^3 GJ, a year-on-year increase of 11.6% (57.98×10^3 GJ), mainly due to a 12.3% rise in production capacity. Purchased electricity accounted for 51% of the total. Compared to 2023, electricity, diesel, natural gas, and steam consumption increased by 4%, 2%, 29%, and 12%, respectively.

To expand renewable energy use, Plant II's solar PV system received self-consumption approval on Mar 1, 2023, with an investment of NT$21.4 million. By the end of 2024, renewable energy accounted for 0.24% of total use, generating 374,414 kWh (1.35×10^3 GJ) for on-site consumption.

2020-2024 Energy Consumption Statistics

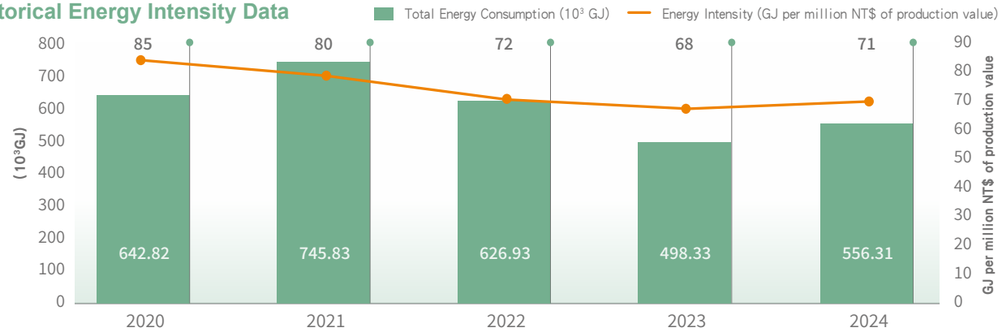
(Unit: 10^3 GJ) [Note 2]

Site	Year	Purchased Electricity	Steam	Natural Gas	Diesel	Gasoline	Liquefied Petroleum Gas	Renewable Energy (Self-Generated Electricity)	Total Energy Consumption
Plants I to IV	2020	195.30	169.56	154.45	2.85	1.29	0.82	0.00	524.27
	2021	223.28	197.36	198.25	3.14	1.20	0.72	0.00	623.95
	2022	188.05	146.17	148.58	2.68	1.23	0.78	0.00	487.49
	2023	167.26	102.01	117.28	2.39	1.12	0.84	1.32	392.22
	2024	180.25	114.39	150.75	2.44	1.11	0.90	1.35	451.19
Trend Tone Imaging, Inc.	2020	60.27	0.00	0.00	0.00	0.20	0.00	0.00	60.47
	2021	71.40	0.00	0.00	0.00	0.12	0.00	0.00	71.52
	2022	71.49	0.00	0.00	0.00	0.18	0.00	0.00	71.67
	2023	59.77	0.00	0.00	0.00	0.00	0.00	0.00	59.77
	2024	59.95	-	-	-	0.21	-	-	60.16
Everlight (Suzhou)	2020	57.75	0.00	0.00	0.10	0.23	0.00	0.00	58.08
	2021	50.17	0.00	0.00	0.05	0.14	0.00	0.00	50.36
	2022	67.39	0.00	0.00	0.16	0.22	0.00	0.00	67.77
	2023	45.92	0.00	0.00	0.12	0.30	0.00	0.00	46.34
	2024	44.53	-	-	0.11	0.32	-	-	44.96
Total	2023	272.95	102.01	117.28	2.51	1.42	0.84	1.32	498.33
	2024	284.73	114.39	150.75	2.55	1.64	0.90	1.35	556.31

Note 1: Environmental indicator data are based on factory sites.
Note 2: Unit for purchased energy: 10^3 GJ.
Note 3: Calorific values follow the latest Energy Administration guidelines (e.g., electricity: 860 kcal/kWh; natural gas: 8,000 kcal/m^3).
Note 4: Energy consumption (GJ) = [Energy consumption (unit) × Calorific value (kcal/unit) × Conversion factor (4.187 × 10^3 joules (J)/kcal)] ÷ 10^9.
Note 5: Figures are rounded to two decimal places.

In 2024, energy intensity rose to 71 GJ per million NT$ of production value, a 4.4% increase from 68 GJ in 2023, reflecting higher energy use aligned with increased production output.

Historical Energy Intensity Data



2. Energy Intensity Statistics from 2020 to 2024

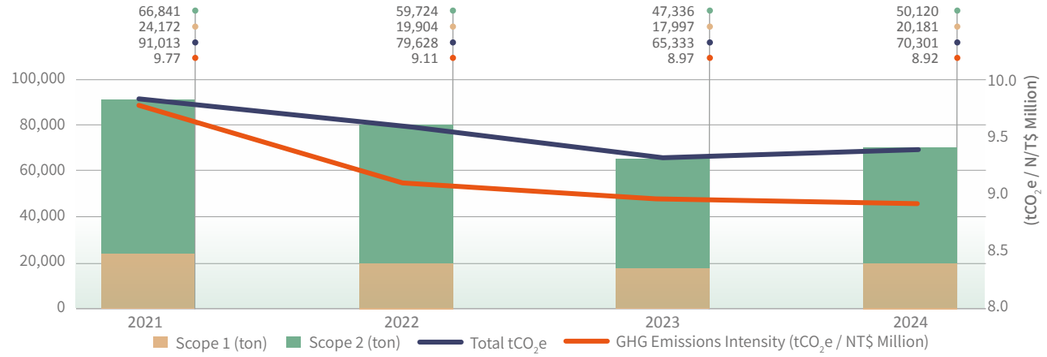
Year	2020	2021	2022	2023	2024
Total Energy Consumption (10^3 GJ)	642.82	745.83	626.93	498.33	556.31
Production Value (Million NT$)	7,543	9,311	8,744	7,283	7,884
Energy Intensity (GJ per million NT$ of production value)	85	80	72	68	71

Greenhouse Gas Emissions & Carbon Management

In 2023, the Board approved the Group's 2030 carbon reduction target, using 2021 as the base year. Accordingly, the reporting period now begins in 2021 for consistency. This report adopts IPCC AR6 GWP values and corrects the previously misapplied electricity emission factor for Everlight (Suzhou) Advanced Chemicals Ltd., replacing the regional baseline with China's national average factor. The emission boundary was also expanded to include RTO treatment stages for greater data completeness.

In 2024, GHG emissions intensity decreased slightly by 0.6% to 8.92 tCO_2e per million NT$, while total emissions rose 7.6% to 70,301 tCO_2e due to increased production. Despite this, intensity continued to decline. The Company remains committed to carbon reduction through equipment upgrades and ongoing process improvements.

Historical GHG Emissions Intensity



2021-2024 GHG Emissions Intensity Information

Year	Items	Plants I to IV	Trend Tone Imaging, Inc.	Everlight (Suzhou)	Total GHG Emissions (tCO_2e) (1)	Production Value (Million NT$) (2)	GHG Emissions Intensity (tCO_2e / Million NT$) (1)÷(2)
2021	Scope 1 (A)	23,845	198	129	24,172	9,311	2.60
	Scope 2 (B)	49,129	9,954	7,758	66,841		7.18
	(A)+(B)	72,974	10,152	7,887	91,013		9.77
2022	Scope 1 (A)	19,565	203	136	19,904	8,744	2.28
	Scope 2 (B)	39,197	10,106	10,421	59,724		6.83
	(A)+(B)	58,762	10,309	10,557	79,628		9.11
2023	Scope 1 (A)	17,702	187	108	17,997	7,283	2.47
	Scope 2 (B)	32,041	8,195	7,100	47,336		6.50
	(A)+(B)	49,743	8,382	7,208	65,333		8.97
2024	Scope 1 (A)	19,833	204	144	20,181	7,884	2.56
	Scope 2 (B)	35,010	8,224	6,886	50,120		6.36
	(A)+(B)	54,843	8,428	7,030	70,301		8.92

Note 1: Office sites have minimal environmental impact and are excluded from disclosure. Data presented reflects production site performance.
Note 2: GHG emissions are calculated using emission factors from the EPA's "Emission Factor Management Table Version 6.0.4."
Note 3: Scope 1 and Scope 2 emissions are compiled based on the operational control approach and include CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, and NF_3.
Note 4: Scope 3 emissions are currently excluded due to limited data availability and collection challenges.
Note 5: Emissions data are rounded to the nearest integer for disclosure and intensity calculation.
Note 6: The Company obtained ISO 14064-1:2006 verification for six years since 2005 and transitioned to the 2018 version in 2022. 2023 data reflects values verified in Jul 2024.
Note 7: 2024 emissions data is based on internal results and will undergo third-party verification in Q3 2025. Any revisions will be updated on the official website.

3. Energy Conservation & Carbon Reduction Achievements (GRI 302-4)(GRI 305-5)

The Company has successfully reduced GHG emissions and improved energy efficiency, enhancing overall performance and contributing to sustainable development goals.

Special Report

Climate Action & Energy Management

To address climate change risks, policy trends, emerging technologies, and carbon pricing, the Company proactively manages climate-related challenges and opportunities. In alignment with Taiwan's 2030 national reduction target announced in 2022, the Group aims to cut carbon emissions by 25% by 2030, while supporting global efforts toward net-zero emissions by 2050 through enhanced climate disclosures and carbon reduction initiatives.

Climate Action & Energy Management Measures

The Company has optimized production processes and equipment, adopted ISO 50001 for energy management, and follows ISO 14064-1 to implement ongoing GHG reduction efforts. Actions include using energy-efficient equipment, systematizing energy management, and investing in renewable energy to reduce reliance on conventional sources.

Energy Conservation & Carbon Reduction Results

Since 2021, the Company has pursued energy-saving and carbon reduction projects, meeting the annual electricity savings target of ≥1%. In 2024, initiatives saved 2.135 million kWh, cut emissions by 1,054 tCO_2e (equal to the carbon absorbed by 87,833 trees), and saved about 7,689 GJ in energy - a 3.2% electricity saving rate. Of 20 planned high-energy equipment replacements, 16 were completed, saving 158,000 kWh and reducing 77 tCO_2e.

ISO 14064-1 Greenhouse Gas Inventory

ISO 50001 Certification

Note 1: Calculations are based on the 2023 electricity emission factor (0.494 $kgCO_2e$/kWh) and 2022 Energy Statistics Handbook.
Note 2: Based on data from the Environmental Quality Protection Foundation, one tree absorbs approximately 12 $kgCO_2e$ per year. Thus, a reduction of 1,054 tCO_2e is equivalent to the annual absorption of about 87,833 trees.

2024 Energy Saving Statistics

Sites	Energy-Saving & Carbon Reduction Measures	Electricity Saved (MWh)	Heat Value Saved (10^5 kcal) [Note 1]	Carbon Emissions Reduced (tCO_2e) [Note 2]	Energy Saved (GJ) [Note 3]
Plant I	Replacement of a 150HP reciprocating compressor with a 125HP screw compressor for the ice-making system	161	138	80	578
	Replacement of two 75HP reciprocating compressors with a 125HP screw compressor for the ice-making system	161	138	80	578
Plant II	Replacement of ice-making machines	122	105	60	440
	Upgraded air compressor system with heat recovery dryers	19	16	9	67
	Replacement of ice-making machines	203	175	100	733
Plant III	Upgrade of blower systems	166	143	82	599
	Installation of variable frequency drives (VFDs) on chilled water systems for energy savings	13	11	6	46
Trend Tone Imaging, Inc.	Replacement of air compressors	409	352	202	1,474
	Implemented demand response load management with Taiwan Power Company	881	758	435	3,174
Total		2135	1,836	1,054	7,689

Note 1: Energy savings (kcal) = [Electricity savings (1,000 kWh) × Electricity calorific value (8.6 × 10^5 kcal/1,000 kWh)]
Note 2: Carbon emissions reduction (tCO2e) = [Electricity savings (1,000 kWh) × Latest annual electricity emission factor (0.494 tCO_2e/1,000 kWh)]
Note 3: Energy savings (GJ) = [Energy savings (kcal) × Conversion factor (4.187 × 10^3 joules (J)/kcal)] ÷ 10^9
Note 4: All data are rounded to the nearest whole number.
Note 5: Data aligns with the energy declaration records.

4. Ozone-Depleting Substances (ODS) Emissions (GRI 305-6)

We have gradually reduced the use of ozone-depleting substances (ODS), especially R22. In 2024, usage dropped to 0.09 metric tons, down from 0.2 metric tons in 2023.

Historical Statistics of Ozone-Depleting Substances (ODS) Emissions

Year	2020	2021	2022	2023	2024
R22 Refrigerant Consumption (metric tons) [Note 1]	3.71	1.97	1.60	0.16	0.09
CFC-11 Equivalent (metric tons)	0.20	0.11	0.09	0.01	0.01

Note 1: The ODP of R22 is 0.055, with CFC-11 defined as 1.0 under the Montreal Protocol. R22 consumption is expressed in CFC-11 equivalent units.
Note 2: ODS emissions are calculated using ODP coefficients from the Montreal Protocol Annexes.

5. Greenhouse Gas and Energy Management Performance

To enhance GHG inventory and energy management, the Company's plants have adopted three key indicators: (1) Electricity Savings (%), (2) GHG Emissions Intensity (tCO_2e/million NT$), and (3) Energy Intensity (GJ/million NT$). In 2024, sites continued carbon reduction efforts aligned with the 2025 mid-term net-zero target. Despite higher energy use, emissions declined and efficiency improved through process optimization, equipment upgrades, and energy management systems. The Company remains committed to a 25% emissions reduction by 2030 and the 2050 net-zero goal.

Annual Management Indicators and Mid-Term Target Progress

Management Indicators	2020	2021	2022	2023	2024	Mid-term target (2025)
Electricity Savings (%)	0.8	1.2	1.1	1.5	3.2	≧ 1.5
GHG Emission Intensity (tCO_2e per million production value)	9.9	9.77	9.11	8.97	8.92	≦ 8.8 [Note 1]
Energy Intensity (GJ per million production value)	85	80	72	68	71	≦ 70

Note 1: Due to data reorganization from 2021 to 2023, discrepancies were identified between the medium- to long-term targets and the current performance status. Therefore, the targets have been revised accordingly.

VI. Climate Change Response - Mitigation & Adaptation*(Material Topic) (GRI 2-23)(GRI 2-24)(GRI 201-2)

In response to global climate challenges, the Company follows the Financial Supervisory Commission (FSC) guidelines and TCFD recommendations, disclosing climate-related risks and opportunities across four areas: governance, strategy, risk management, and metrics and targets.

Aligned with Taiwan's net-zero policy and the FSC's 2023 "Corporate Sustainability Action Plan," the Board approved a 25% carbon reduction target by 2030 (base year: 2021).

Everlight Chemical remains committed to climate mitigation and adaptation, working with stakeholders to drive a low-carbon transition and build a sustainable future.

Set 2021 as the carbon reduction base year → **Achieve a 25% reduction compared to 2021 levels by 2030** → **Reach net-zero carbon emissions by 2050**

Material Topic #6	Climate Change Response - Mitigation and Adaptation
Impact Assessment	**Positive:** Lowers emissions, mitigates climate risks, protects biodiversity, and reinforces CSR. **Negative:** High upgrade costs; poor climate response may impact communities and industries.
Management Policies & Commitments (GRI 2-23) (GRI 2-24) (RT-CH-530a.1)	We have set targets to reduce carbon emissions by 25% by 2030 and achieve net-zero emissions by 2050, and have signed the "Net-Zero Emissions Declaration" to demonstrate our commitment to sustainable development.
Governance Structure	• **Head Office:** Established the "Sustainable Development Committee". • **Committee Structure:** Consists of four working groups - the "Sustainable Environment Group", the "Social Responsibility Group", the "Corporate Governance Group," and the "Information Disclosure Group".
Management Actions	• **Board of Directors:** The highest decision-making level, overseeing climate-related risks and opportunities. • **Risk Management & Sustainable Development Committees:** Assessing climate impacts and formulating corresponding strategies. • **Climate Change Task Force (under the Sustainable Environment Subcommittee):** Executes daily sustainability initiatives.
Resource Allocation	• Conduct risk and opportunity analysis based on the framework of Climate-Related Financial Disclosures (TCFD), the WBCSD Chemical Sector Guidance, and the CDP questionnaire. • Adopt a risk management process with reference to ISO 31000:2018 - Risk Management Guidelines.
Indicators & Targets (RT-CH-150a.1)	**Management Indicator:** GHG Emissions Intensity (tCO_2e per NT$ million of production value) **2024 Target:** Original ≤ 8.3, Revised ≤ 8.96 **2030 Target:** ≤ 7.3 **Indicator Description** • GHG Emissions Intensity = GHG Emissions (tCO_2e) / Production Value (NT$ million)
Evaluation Mechanism	• Sustainability Development Committee (2 times/year) • Risk Management Committee (2 times/year) • Sustainable Environment Group, Social Welfare Group, Corporate Governance Group, and Information Disclosure Group (on an as-needed basis per year)
Methods to Ensure Effective Actions	• **Risk Monitoring:** Follows ISO 31000:2018 to assess risk attributes, categories, likelihood, and impact, and develop appropriate management strategies. • **Risk Assessment:** Identify, prioritize, and evaluate risks; formulate adaptation measures and integrate them into the risk management framework for ongoing improvement. • **Performance Review:** Conduct annual evaluations to ensure effective implementation.
2024 Execution Results	• GHG Emission Intensity (tCO_2e per million production value) = 8.92
Communication with Stakeholders	Key stakeholders include shareholders, customers, suppliers, communities, and government agencies. Communication occurs through both regular and irregular basis.

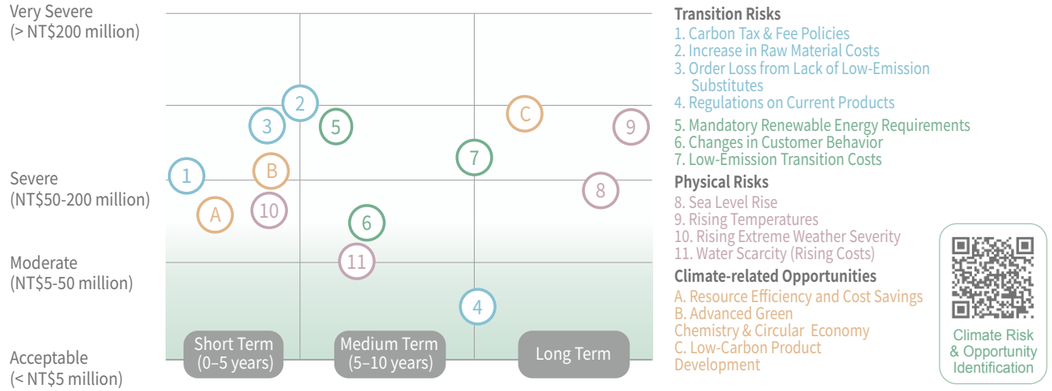
Climate Risk Assessment

To assess climate risks comprehensively, the Climate Change Task Force adopted the TCFD framework, referencing WBCSD chemical sector guidance, the CDP questionnaire, and industry-specific risk factors. A Climate Risk Matrix was used to identify, rank, and analyze risks, forming the basis for developing mitigation measures within the existing risk management system.

Climate Governance Structure

Strategy & Implementation Timeline

Risks were evaluated by severity and likelihood, outlining short-, medium-, and long-term climate risks and opportunities. Assessment results are as follows:



Climate Risk & Opportunity Identification

Note: The matrix's vertical axis indicates impact severity: Very Severe - financial loss > NT$200 million; Severe - financial loss NT$50-200 million; Moderate - financial loss NT$5-50 million, Acceptable - financial loss < NT$5 million.

To address the risks and opportunities posed by global climate change, the Company is actively promoting a low-carbon transition and has introduced management mechanisms aimed at reducing carbon emissions, improving energy efficiency, and advancing the development of sustainable products and green chemical production technologies. The specific measures and actions are summarized in the table below:

Specific Measures & Actions in Response to Climate-Related Risks & Opportunities

Specific Measures	Description	Concrete Achievements & Actions in 2024
Energy Management	Enhance energy performance	• Obtained external certification for the ISO 50001 Energy Management System in 2024.
GHG Inventory	• Implement ISO 14064-1:2018 for GHG inventory • Implement ISO 14067:2018 for product carbon footprint	Organizational GHG Inventory and Verification: • Parent company verification completed in 2023 • Group-wide site verification underway from 2024 • Product carbon footprint inventory initiated in 2023
Carbon Reduction Goals & Initiatives	Establish 2030 carbon reduction targets and roadmap	• In 2023, the Board approved a 25% carbon reduction target by 2030 (2021 baseline). To date, total GHG emissions are down 22.7%, with an 8.7% drop in emission intensity per production value.
Sustainable Product Development	Develop sustainable products that enhance efficiency and reduce resource use	• 【Eversorb® MPU Functional Masterbatch】Enhanced recycled TPU weather resistance and developed supercritical foaming for better footwear performance. Awarded Silver at the 2024 TaipeiPLAS.
Green Chemistry & Production Technologies	Apply green chemistry in product design and manufacturing	• 【IBR/IPR UV Light-Shielding Adhesives】Green, solvent-free, and in large-capacity packaging to reduce plastic use. Received Taiwan Excellence Gold Award.
Circular Economy Promotion	Improve resource efficiency through industry collaboration	• 【Eversorb® AQ Light Stabilizers】For water-based coatings, focusing on waste, energy, and emission reduction. Awarded 2024 Resource Recycling Silver Award.

In 2024, plant sites proposed 23 process improvement projects, of which 16 were successfully implemented after planning, design, and testing. Results, including carbon reduction performance (integrated with GHG inventory data), are summarized in the table below.

2024 Process Improvement Cases & Carbon Reduction Performance

Strategy	Process Summary Description		Total Carbon Reduction ($kgCO_2e$)/year
Develop Green Chemistry Production Technologies	Process Improvement	Simplified processes & improved efficiency	382,366
		Raw material dissolution without heating, reducing steam consumption	
		Optimized RO water use to improve process efficiency	
		Enhanced RO & spray drying efficiency	
		Condensation reaction without heating to reduce energy use	
		Intermediate stage without heating for energy saving	
		Increased production scale to lower batches and energy consumption	
		Static mixers enable heat-free mixing and energy savings	
Improve Energy Efficiency	Equipment Improvement	Improved PUR oven for energy savings	12,208
		Applied variable frequency control to cooling towers	
		Upgraded air compressor cooling system	
		Enabled remote control of air compressors (Buildings A & C)	
		Retrofitted with permanent magnet fans	
Total			394,574

The Group takes an integrated approach to climate mitigation and adaptation across R&D, manufacturing, supply chain, and market operations. Carbon management covers 5 product categories, with climate risks and opportunities assessed to guide low-carbon actions and evaluate financial impacts. The results, summarized in the table below, support response planning, scheduling, and financial impact management.

Description of Climate Change Risks & Opportunities Impacts & Financial Implications

Risk & Opportunity		Impact on Everlight Chemical Group	Financial Impact Before Action	Actions Taken	Cost of Actions
Risk	Government Imposition of Carbon Fees/ Taxes	• The government plans to introduce a carbon fee policy. • Carbon border taxes in the EU and other countries may raise supply chain costs.	Carbon fees and EU CBAM expansion may increase annual costs by over NT$50 million.	Conduct carbon footprint assessments and plan reduction timelines.	Planned investment of NT$9.2 million (Aug 2022-Jul 2025) to implement GHG inventory and product carbon footprint management.
	Demand for Renewable Energy Usage	• Renewable energy requirements will increase production costs. • Achieving the 2030 target will require green electricity procurement.	• In 2023, Plant II invested NT$21.4 million in solar power installations. • Green electricity procurement may increase operating costs by 1%	• Implement ISO 50001 to improve energy efficiency	Since 2022, NT$1.2 million has been invested in energy management systems, with NT$86 million spent on energy-saving equipment by 2024. The system supports systematic energy management.
	Rising Raw Material Costs	Stricter climate rules may limit supply and raise material costs.	Causes a moderate negative impact.	Upgrade to energy-saving equipment	Please refer to the following opportunity-related investment costs.
	Market/Consumer Shift Toward Low-Carbon Products	Carbon pricing pressures may reduce competitiveness of high-emission products.	Causes a moderate negative impact.	Implement carbon footprint and risk management strategies.	
Risk	Extreme Weather Events	Extreme weather (rainfall, drought, temperature swings) may disrupt operations.	Causes a moderate negative impact.	Assess flood risks at production sites; improvements planned for Plants I & III.	Investment will be allocated based on post-evaluation improvement plans.
Opportunity	Necessity to Develop Low-Carbon Transition Products	Rising demand for low-carbon products accelerates process and product development.	Generates a moderately high positive impact.	Advance green chemistry and circular economy practices.	About 4% of annual revenue is invested in low-carbon R&D. In 2024, spending reached NT$365.83 million (4.48% of NT$8.17 billion revenue).
	Development of Sustainable Products for End-Users			Develop sustainable products and roadmaps.	

4. Indicators & Targets

Since 2005, the Company has passed ISO 14064-1:2006 third-party verification for six consecutive years (Plants I to III), and transitioned to the ISO 14064-1:2018 standard in 2022. By 2024, a comprehensive carbon inventory and third-party verification were completed for all sites. The Group continues to manage GHG data under this standardized system to ensure accuracy and consistency. The following summarizes recent emissions intensity performance and the 2030 reduction target:

Climate Change Risk Management

Climate Risk Management Framework (PDCA)

Climate Risk Management Structure

Recent GHG Emission Intensity & 2030 Target

(Unit: tCO_2e per million production value)

Year	2021			2022			2023			2024			2030
Items	Scope 1	Scope 2	Total	Scope 1	Scope 2	Total	Scope 1	Scope 2	Total	Scope 1	Scope 2	Total	Total
Plants I to IV	3.07	6.32	9.39	2.75	5.52	8.27	2.99	5.41	8.40	3.01	5.32	8.33	7.04
Total of Plant Sites	2.60	7.18	9.77	2.28	6.83	9.11	2.47	6.50	8.97	2.56	6.36	8.92	7.33

Note 1: Restated GHG data (2021–2023); see Appendix 5 for changes in emissions intensity.

VII. Circular Economy

1. Purpose

The Company is committed to conserving natural resources, optimizing their use, and enhancing system efficiency. By adopting a circular economy framework, we address energy efficiency, resource regeneration and reuse, waste and water management, material flows, logistics, air pollution, and noise control - steadily advancing toward zero emissions and zero waste.

Circular Economy Promotion Committee

2. Company-wide Circular Economy Experience Program

Recognizing the limits of Earth's resources, the Company conducted 37 Circular Economy Experience sessions from Aug 8 to Dec 20, 2023, across 9 production sites (excluding Everlight (Suzhou)). The program promoted employee behavioral change and achieved high satisfaction: 79.5% for online courses, 94.4% for in-person sessions, and an average exam score of 89.1, well above the 80-point passing standard.

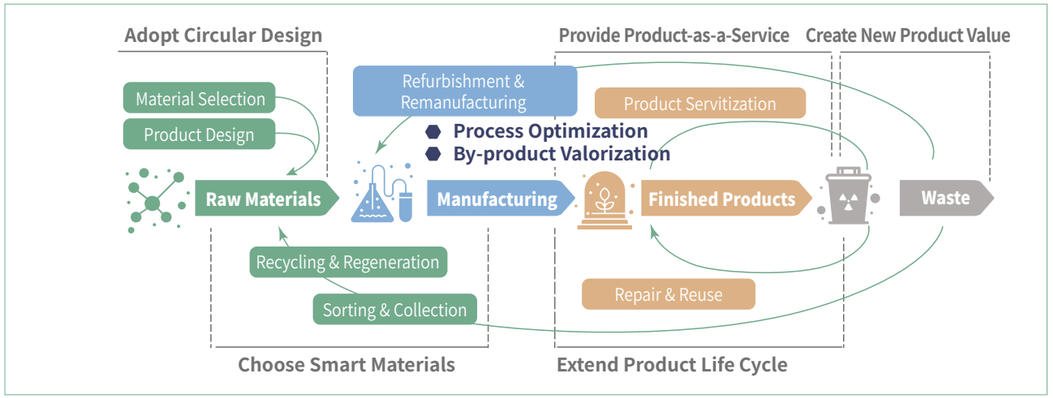
Company-wide Circular Economy Experience Course - Teaching Process

General Manager of Plant II (right) joine the group discussion

3. 2024 Circular Economy Competition Event

Following the 2023 program, the Company held the 2024 Circular Economy Competition, with 18 teams participating. After document review, 8 teams advanced to the final on Dec 30, 2024, presenting practical circular initiatives. Focused on resource reuse and circular applications, the competition achieved NT$50.59 million in annual savings and 4,071 tCO_2e emissions reduction, showcasing innovation and future potential for circular development.

Circular Value Chain

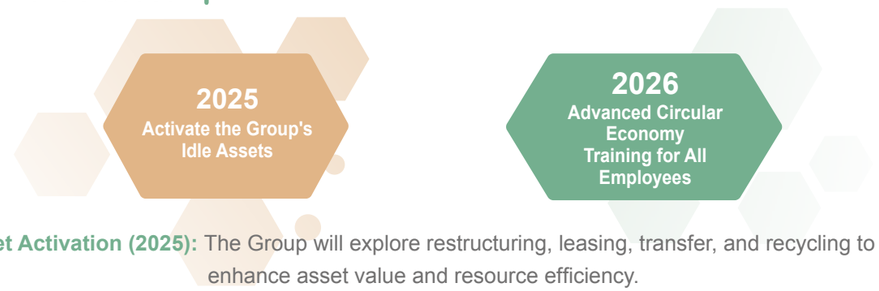


Representatives from Each Plant Participating in the Final Presentation of the Circular Economy Competition

Manager (fourth from the right) Presenting Cash Prizes and Certificates to the Winning Teams' Representatives

Circular economy is not just a vision - it's shaped by every action. Let's drive innovation forward to create environmental value and a more hopeful future.

4. Future Plans & Outlook



- **Idle Asset Activation (2025):** The Group will explore restructuring, leasing, transfer, and recycling to enhance asset value and resource efficiency.
- **Advanced Circular Training (2026):** Building on the 2023 experience program, the Company will launch advanced training to spark innovation, improve practical skills, and deepen sustainability engagement.

VIII. Biodiversity (GRI 304-1)

Everlight Chemical, with sites in Taoyuan, Hsinchu, and Suzhou, operates globally - serving over 100 countries across five continents. Aware of its dependence on natural resources such as water, minerals, and energy, the Company recognizes the environmental impacts of its operations, including water use, chemical pollution, GHG emissions, and land use [Note 1] . In response to global biodiversity loss, Everlight views biodiversity protection as vital to both nature and long-term business sustainability.

Note 1: Source: A Nature Positive Journey for Business: A Taiwan Perspective, BCSD Taiwan/WBCSD, Appendix 3.

1. Nature Governance Structure & Collaboration

1.1 Governance Structure

Biodiversity initiatives are overseen by the "Sustainable Development Committee," with implementation led by the Sustainable Environment Task Force, as shown in the governance diagram below.

Sustainable Development Committee Environmental Task Force	Approves and oversees biodiversity initiatives
Sustainability Office	Integrates resources, promotes research, and identifies biodiversity risks and opportunities
Biodiversity Task Force	Plans and implements programs to mitigate naturerelated impacts on biodiversity

1.2 Professional Collaboration & Activities

Everlight Chemical is a founding and cornerstone member of the BCSD Taiwan Association, with the Chairman of the Board serving as one of the association's directors.

Advocacy Partner	Participation Details	Frequency
bcsd Taiwan	Participates in nature-related seminars and advocacy activities on an ad hoc basis.	Quarterly
Professional Collaboration	**Collaboration Topic**	**Frequency**
STP (Seed Talent Program)	Collaborates with local universities to study nearby ecosystems and plan conservation activities.	Biannually
Taoyuan Wild Bird Society	Ecological education tours	Biannually

1.3 Stakeholder Engagement

Key stakeholders include employees, their families, and the local community. The Company promotes ecological awareness internally and engages the community in conservation efforts.

- **Ecological Tours:** Annual tours for employees and families to explore factory-adjacent ecosystems and promote environmental awareness.
- **Community Collaboration:** Adopt local sand dunes, wetlands, and rivers near Taoyuan sites as species habitats, fostering long-term conservation with community and environmental group partnerships.

2. Company Commitment to Biodiversity

The Company's sustainability policy is: "To fulfill the responsibility of a global citizen and protect the Earth." In line with this, we implement environmental management, promote green chemistry, and work toward a zero-carbon economy. Our efforts focus on reducing impacts on natural ecosystems, protecting habitats, and supporting ecological restoration - ensuring biodiversity is considered throughout the production process. Key Strategies:

- **Minimize Production Impact:** Optimize processes to prevent chemical pollution, avoid deforestation, and protect local habitats and species.
- **Raise Ecological Awareness:** Promote biodiversity education through environmental campaigns and training.
- **Support Ecological Restoration:** Participate in or support local projects such as wetland restoration, afforestation, and habitat conservation.

2030 Qualitative Targets:

1. **Pollution Reduction:** Minimize environmental impacts from chemical emissions by improving wastewater and air pollution controls and maintaining ISO 14001 performance.
2. **Awareness Building:** Strengthen biodiversity awareness among employees and supply chain partners to encourage joint conservation efforts.
3. **Habitat Protection:** Reduce ecological disruption from operations and support restoration initiatives to preserve local biodiversity.

2030 Quantitative Targets:

1. **Employee & Supply Chain Training:** Offer at least one hour of biodiversity training each year to employees and key supply chain partners to raise awareness of ecological protection.
2. **Collaborative Projects:** Partner with at least 2 local NGOs or environmental groups to jointly promote ecological conservation and restoration initiatives.

3. LEAP Framework Description

Everlight Chemical adopts the Taskforce on Nature-related Financial Disclosures (TNFD) LEAP framework to assess biodiversity impacts at its five production sites in Taiwan, with a focus on identifying operational risks and implementing mitigation and conservation strategies.

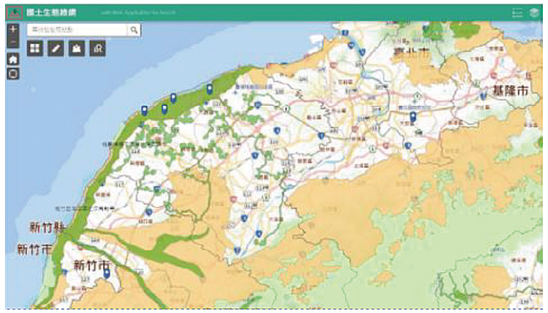
3.1 Locate - Key Activity Locations

The Company operates four plants in Taoyuan and one in Hsinchu, all within industrial parks. Geographic analysis shows the Taoyuan sites are near the National Ecological Green Network Corridor No. 5: Taoyuan-Hsinchu-Miaoli Coastal Wetlands, home to diverse ecosystems such as wetlands, mudflats, and marshes. Key species and habitats include:

- Migratory waterbirds: e.g., Black-faced Spoonbill, Eurasian Curlew, and Saunders's Gull
- Migratory land birds: e.g., Rustic Bunting and Grey-faced Buzzard
- Endemic species: e.g., Purple Crow Butterfly, Taiwanese Fiddler Crab
- Native and wetland plants: e.g., mangroves, Miscanthus, lilies, and various wetland herbs

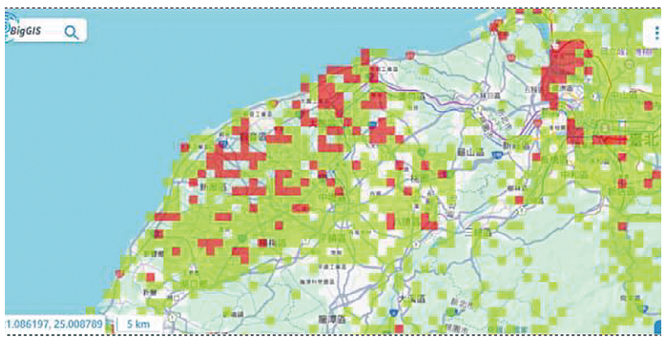
These wetlands support biodiversity, water purification, and carbon sequestration, but face threats from development, pollution, and climate change.

National Ecological Green Network Blueprint



Data Source: https://conservation.forest.gov.tw/0002174

Red Zone Waterbird Hotspot (20200508)



Source：（Big Geospatial Information System， BigGIS）
https://gis.ardswc.gov.tw/
Red: Key Area for Waterbirds / Green: Non-Key Area for Waterbirds

Plants I & III are within waterbird hotspots, while Plants II & IV are nearby - placing all within ecologically sensitive areas. As such, production activities must carefully manage risks to local habitats and species.

3.2 Evaluate - Dependencies & Impacts

Everlight Chemical produces specialty chemicals such as water-soluble dyes, UV absorbers, electronic chemicals, and pharmaceutical ingredients. Operations rely on water resources and generate air emissions, wastewater, and solid waste. Four key areas of nature-related impact have been identified.

Impact	Dependency
Water Resource Stress	• High water usage may compete with nearby wetlands for resources.
Chemical Pollution Risk	• Untreated waste may harm wetland water quality and waterbird habitats.
Land Use	• Factory expansion could destroy local plant and animal habitats.
Air Pollution & Noise	• Emissions and equipment noise may disrupt migratory bird behavior.

3.3 Assess - Risks & Opportunities

We assess nature-related risks, reduce our ecological footprint, and pursue opportunities for sustainable transformation.

Risks	Opportunities for Transformation
• **Regulatory Pressure:** Stricter environmental requirements may lead to fines or production limits if unmet. • **Supply Chain Disruption:** Ecological changes (e.g., climate impacts) may raise raw material costs or disrupt supply. • **Brand & Market Impact:** Poor environmental management may damage brand image and reduce competitiveness. • **Physical Risks:** Extreme weather, sea level rise, and water shortages may impact infrastructure and operations.	• **Green Transformation:** Apply green chemistry principles and eco-friendly technologies to improve resource efficiency and promote circular practices. • **Conservation Engagement:** Join local biodiversity efforts to build community partnerships and shared environmental value.

3.4 Prepare - Strategy & Actions:

Based on the analysis of nature-related risks and opportunities, Everlight Chemical implemented the following measures in 2024 to reduce environmental impacts and support local ecological conservation:

1 Water Resource Management:

We set annual targets for water use, discharge, and recovery. Advanced wastewater treatment ensures no harm to wetland ecosystems. The water recycling rate (R2) consistently exceeds 90%, reaching 92% in 2024.

2 Process Efficiency, Circular Economy & Renewable Energy

- Replaced outdated equipment (e.g., chillers, compressors, ice makers) and improved processes to reduce energy use.
- Promoted atom economy to enhance synthesis efficiency and cut GHG emissions.
- Held the first Circular Economy Competition at Taoyuan plants with 18 teams; 8 reached finals. To be held biennially.
- Plant II generated 374,414 kWh of solar power in 2024 (0.24% renewable usage); other sites are assessing installation for 2025.

3 Pollution & Emissions Reduction:

- Invested in green chemistry to cut toxic substance use and chemical waste.
- Adopted best available technologies to reduce air pollutants. No major air pollution violations or penalties in 2024.
- Achieved 100% wastewater compliance for three consecutive years.

4 Biodiversity Education:

- Held ecological tours to embed conservation awareness in corporate culture.
- Sponsored NT$120,000 for the 23rd STP Talent Training Program, supporting students in biodiversity research.
- Partnered with the STP program to conduct biodiversity activities at Laojie Creek and Xucuo Harbor Wetland; Phase I report due Q1 2025.

5 Habitat Restoration & Protection:

- Supported local ecological sites (e.g., Xucuo Wetland, Caota Sand Dunes) through volunteer events and tours.

- Summary of 2024 activities is provided below; details in Chapter 7: "Community Engagement."

Nearby Ecological Conservation Sites	2024 Activities & Budget
Xucuo National Ecological Wetland	**1.Beach Cleanup (Apr 27, 2024)** Plant I employees, families, and contractors (68 participants) joined a cleanup event, collecting 284 kg of waste (e.g., PET bottles, cans, nets) with a budget of NT$9,321. **2. Employee Education (Oct 18, 2024)** The Taoyuan Wild Bird Society shared insights on the Xucuogang Wetland with 13 Plant I supervisors, covering conservation efforts and future biodiversity goals.
Dahuxi River	**1.** River Adoption - Plant II Plant II adopted part of the Dahushi River, conducted weekly patrols, and submitted monthly reports to the Taoyuan City Government. It was awarded the Outstanding Enterprise River Adoption Award. **2.** Sustainable Tour (Jun 22, 2024) Plant II organized an ecological tour of Shulinli Detention Pond and Dajue River, with 45 participants. Total cost: NT$42,000.
Shulin Ecological Detention Pond	Plant II also adopted the Shulinli Ecological Detention Pond and joined its community-based disaster prevention program. • May 28, 2024: Attended Taoyuan City's Enterprise Disaster Prevention Exchange Meeting. • Jun 29, 2024: Participated in the National Flood Prevention Mobilization Event.
Caota Sand Dunes	Beach Cleanup Activities **1.** Apr 20, 2024: Plants II & IV co-hosted a cleanup at the sand dunes. **2.** May 25, 2024: Plant III organized a sand dune cleanup with around 75 participants, including 60 employees/families and 15 NCU volunteers. Budget: NT$10,000.

Future Outlook & Conclusion

Biodiversity protection is both urgent and essential. As a responsible specialty chemicals manufacturer, we recognize its importance to our long-term sustainability. Through the TNFD LEAP framework, we have identified ecological risks at our Taoyuan site and taken proactive steps to reduce our impact.

We remain committed to strengthening environmental management and aligning business growth with ecological responsibility. This report reflects our dedication and calls on industry partners to join us in building a more sustainable future.