

A Message from our Chairman

Looking back on 2022, faced with the drastic changes to external environments, the Ennostar Group formulated market insights, continued to seek out opportunities, and established advance strategies to meet market needs, while also strengthening our corporate resilience to ensure that Ennostar can enjoy sustainable growth and operations.

2022 marks the first year of ESG implementations at the Ennostar Group. ESG Corporate Sustainability Committee under the Board so that the Board can directly supervise Group ESG targets, strategies, and implementations, thereby demonstrating our emphasis and commitment to ESG. Additionally, we have adopted the dual tracks of “vertical strengthening” and “horizontal integration” to accelerate ESG progress.

To strengthen climate resilience, we built upon our core capabilities to develop enhanced energy-saving products which helped our end clients reduce 546 million kWh in energy usage (equivalent to 278,000 metric tons CO₂e) in 2022. In terms of external participation, Ennostar Group completed ISO 14064-1 greenhouse gas inventories and third-party external verifications in 2022, became a Task Force on Climate-Related Financial Disclosures (TCFD) supporter, joined the Taiwan Climate Partnership, and actively participates in domestic and foreign climate actions. In addition, in response to the government's 2050 net zero emission pathway, the Ennostar Group initiated use of green electricity and launched a sustainable energy transformation plan. We plan to realize our RE100 goal in nonproduction sites by 2030, and our RE100 goal across the entire Group by 2050. We also collaborated with First Bank on a syndicated loan which incorporates sustainability concepts and ESG sustainability indicators into loan conditions, thereby linking sustainability and technological operations to accelerate implementations of low-carbon strategies.

In 2022, Ennostar carried out structural and performance-based salary adjustments to enhance overall Group remuneration competitiveness. This year, we also established a share ownership trust for all employees, enabling them to become shareholders and enjoy the results of our operational performance.

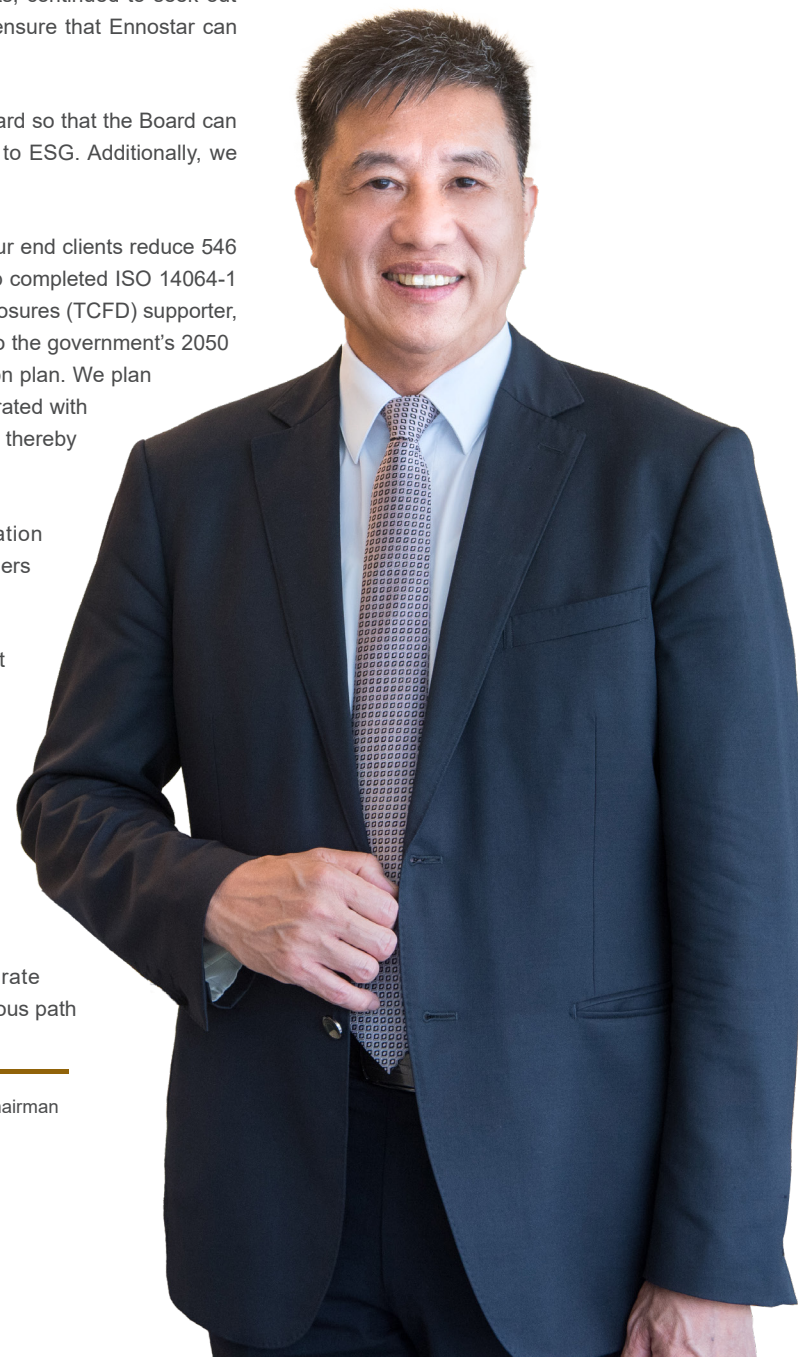
Over the years, our subsidiaries have participated in various charity activities through in-kind donations and cash donations. Most importantly, we encourage our employees to serve as volunteers and participate in various charity activities from care for stray animals, local beach clean-ups, education of rural schoolchildren, and care for the elderly to implement social participation from different aspects, converting their concerns into practical actions and generating positive social influence.

Ennostar continues to invest heavily in R&D resources; work with our partners on new-generation advanced display, automotive, sensor, and lighting technologies and high-value applications; and extend our core capabilities in epitaxial and manufacturing procedures for application in new-generation compound semiconductors so we can become the “best compound semiconductor investment platform.”

We continue to devote ourselves to the three major aspects of environmental protection, social participation, and corporate governance. We hope to create a unique Ennostar sustainability formula as we continue to make our way down the long and arduous path of excellence in sustainability.



Chairman



About Ennostar

Ennostar was founded on January 6, 2021 through a share swap involving two of the biggest LED corporate groups in Taiwan, EPISTAR and Lextar. We focus on technological development and manufacturing of compound semiconductors. Our products encompass epi, chip, packaging, and module materials, and we provide our clients with integrated supply chain services and solutions. Our products are used in displays, automobiles, sensors, professional lighting equipment, 5G communications, and power components.

Group Overview

Date of listing	January 6, 2021; ticker code 3714
Total number of employees	8,343
Group headquarters	7F.-5, No. 1, Sec. 3, Gongdao 5th Rd., Hsinchu City
Paid-in capital	NT\$ 7,547,840,000
2022 revenues	NT\$ 28,878,250,000

Condensed and Consolidated Income Statement for 2022

Item	Ennostar (Thousand NTD)
Revenues	28,878,250
Gross operating profit (retained economic value)	4,981,547
Operating profit and/or loss	-465,598
Net profit (loss)	-566,383
Payment made to investors	0
Earnings per share (NTD)	0.05
Employee compensation and benefits	7,808,368
Payments made to the government (taxes)	54,153

Proportion of Business

Product	Revenues (Thousand NTD)	Proportion of Revenues
Chip/Wafer	20,965,987	72.6%
Assembly and Module	6,977,759	24.2%
Other	934,504	3.2%
Total	28,878,250	100.0%

2022 Sustainability Performance Highlights

Corporate Governance

Ranked at top 5%

Corporate Governance Evaluations System

Silver Award

TCSA Taiwan Corporate Sustainability Award-
Corporate Sustainability Report Award

1/2

Independent directors make up more than half
of board members

0

Zero information security incidents and invasions
of customer privacy occurred

0

Zero legal proceedings associated with anticompetitive or antitrust
behavior occurred

1,409

Cumulatively registered 1,409 trade secrets

>5,600

Received approval for more than 5,600
patents worldwide

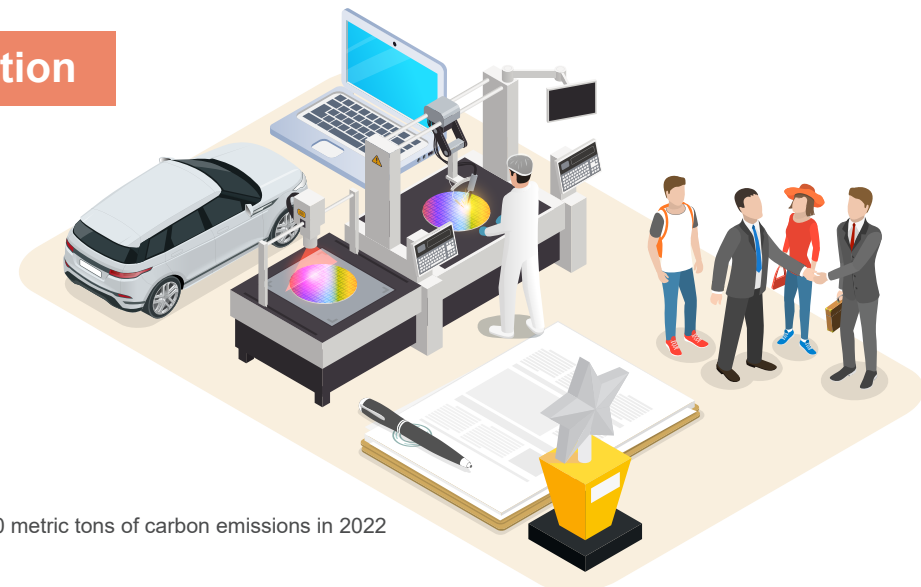
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Collaborated with five universities on
innovative R&D projects

-546 million kWh of electricity usage

Lighting, backlights, and automotive products reduced electricity usage by 546 million kWh and 277,000 metric tons of carbon emissions in 2022

Leading Innovation



Green Operations

-10,040
metric tons CO₂e

Reduced power consumption by 20.74 million kWh and carbon emissions by 10,040 tons CO₂e in 2022

84%

Resource utilization rate for 2022 was increased to 84%

100%

Completed carbon inventories for the entire Group

30%

Reduced water consumption by 2,346 million liters in 2022; annual water conservation rates increased by nearly 30% compared to the previous year



Inclusiveness and Growth

4.63

The Sustainability Academy hosted nine courses which achieved an overall employee satisfaction score of 4.63 out of 5

100%

Total 4,906 people attended human rights training, achieving a training completion rate of 100%

20 students

Worked with National Taiwan University, National Taipei University of Technology, National Yang-Ming Chiao-Tung University, and other universities on six industry-academia collaborations, and trained more than 20 graduate and doctoral students

0

No human rights violations occurred on Group operational sites

NT\$ 2,609,000

Social participation and investments



Recognitions and Awards



Ennostar | 2022 TCSA Taiwan Corporate Sustainability Report Silver Award



Ennostar | 2022 TOSIA Industry Contribution Award



Ennostar | 2022 Ranked at top 5% of listed companies in Corporate Governance Evaluations



Ennostar | Obtained ISO 27001 Information Security System verification



Lextar | Obtained TIPS Taiwan Intellectual Property Management System certification



Epistar | 2022 Golden Merchant Award



Epistar | 2022 HangJia Aurora Award Mini/Micro LED Leadership Award



Epistar | 2022 HangJia Aurora Award top ten RGB and Mini LED chip revenues



Epistar | 2022 TOSIA Outstanding Product Award



Epistar | 2022 TOSIA Innovative Technology Award



Lextar | 2022 HangJia Aurora Award Excellent Product of the Year (Mini LED backlight application for notebook computers)



Lextar | 2022 HangJia Aurora Award top ten UV LED packaging revenues



Lextar | 2022 HangJia Aurora Award UV LED Outstanding Industry Product Award



Lextar | 2022 Silver Smart Display Industrial Alliance (SDIA) Award



Lextar | BenQ Qisda Group Excellence in Sustainability Award



Ennostar | Received B ranking from the Carbon Disclosure Project (CDP) in 2022



Epistar | 2022 Best Companies To Work For In Asia



The entire Group has obtained ISO 45001 verification



Epistar | Taiwan i Sports Enterprise certification

Ennostar Responses to United Nations Sustainable Development Goals in 2022

CH4 Green Operations

We use PDCA process to implement water resource management plans, and work with external vendors to identify possible reduction or reuse points for liquid waste within factories, thereby enhancing overall resource utilization ratios and reducing use of wastewater chemicals.

6 CLEAN WATER AND SANITATION



7 AFFORDABLE AND CLEAN ENERGY



CH4 Green Operations

We implement energy management and conservation through four major actions, including lighting management, air-conditioning management, equipment and system improvement, and process efficiency improvement, to enhance overall energy efficiency in the Group.



CH4 Green Operations

We have established management regulations for climate change risks and opportunities, and incorporated talent cultivation plans into training courses and promotions for our sustainability blueprint to instill sustainability awareness in our employees.

13 CLIMATE ACTION



Environment

Governance

16 PEACE, JUSTICE AND STRONG INSTITUTIONS



CH2 Corporate Governance

We have established a governance structure with clear division of responsibilities as well as ethical governance policies and corporate culture.

CH5 Inclusiveness and Growth

We have established human rights policies to eliminate illegal discriminations and ensure that our personnel have workplace environments which offer equal opportunities.



CH5 Inclusiveness and Growth

We work with multiple universities on research projects, scholarships, courses and curriculum, equipment donations, internships, and other industry-academia collaborations to cultivate young professional talent.

CH2 Corporate Governance

We have established regulations for ethical reports and complaints as well as a dedicated complaint handling committee.



Social

CH2 Corporate Governance, CH5 Inclusiveness and Growth

We have established grievance and reporting systems, implement human rights policies, emphasize respect for diverse cultures, and prohibit discrimination.



CH5 Inclusiveness and Growth

Provide long-term investments for education of children in rural areas, including by upgrading school facilities, supplying materials and funds, and offering companionship through volunteers.

Commitment to Sustainability

Sustainable Development Strategies

2022 is the Group's first year of implementing sustainability and ESG actions. Our vision in business is to become the “best compound semiconductor investment platform” through our focus on four core concepts (innovation, integrity, inclusivity, and sustainability) and six major sustainable development aspects. Our parent company has established a dedicated sustainability department which continues to plan and promote Group sustainability transformations; coordinate short, medium, and long term plans; and gradually achieve the two main missions of our sustainability strategic blueprint.

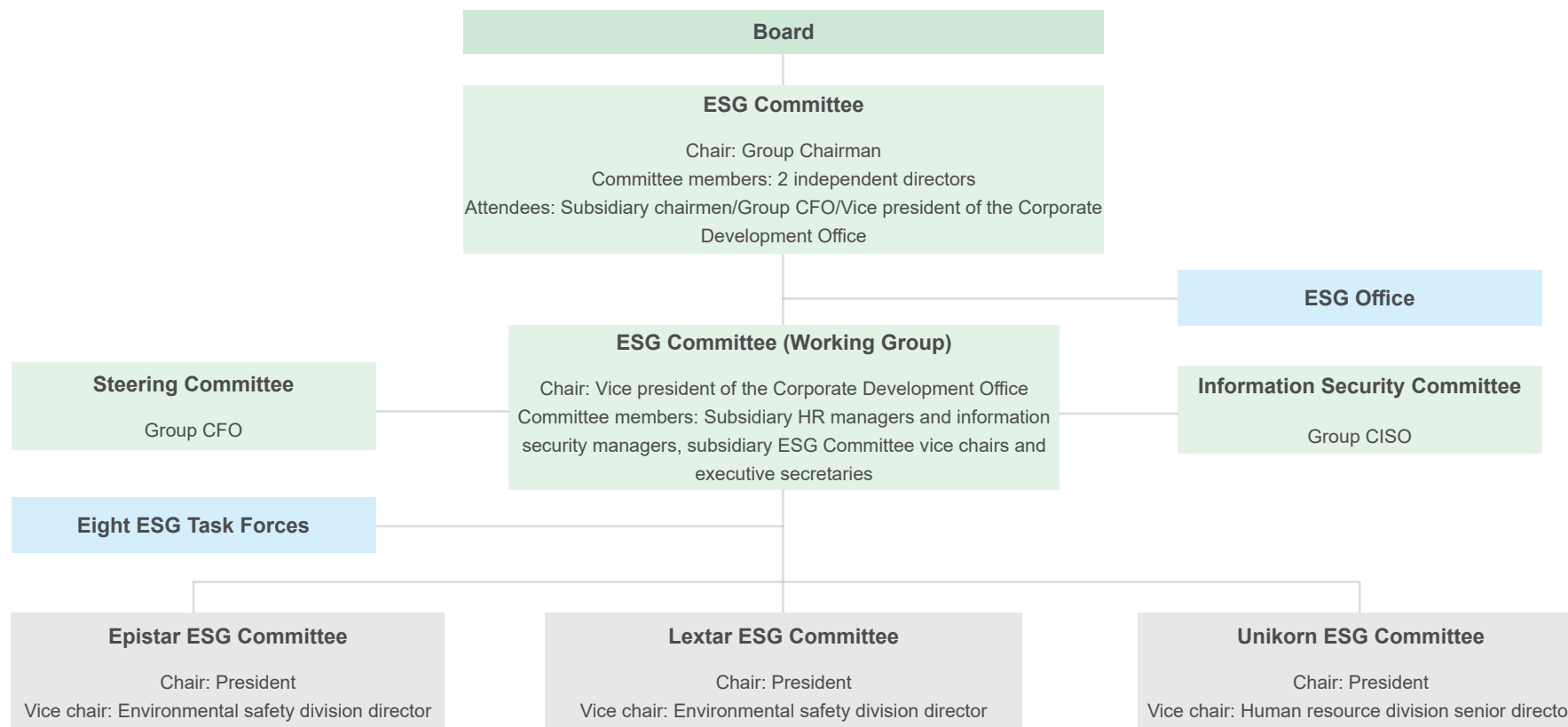


ESG Committee

The Group was established in 2021 and formed an ESG Committee under the Board at the end of the year. The Committee is composed of the Group chairman, independent directors, and senior managers from our main subsidiaries (EPISTAR, Lextar, and Unicorn). The ESG Committee is a functional committee under the Board which convenes every quarter to coordinate and plan Group ESG policies, sustainability goals, and strategic blueprints; identify ESG risks and opportunities to determine relevant investment strategies; and monitor ESG performance goals and progress.

Horizontal Integration: Cross-Corporation Sustainable Task Forces in the Group

Group subsidiaries EPSTAR, Lextar, and Unikorn (and all their factories in Taiwan and China) have established respective ESG committees which are chaired by the presidents of each subsidiary, convene every month to review progress on all management guidelines, and facilitate vertical communications. We officially formed eight Group ESG task forces in the third quarter of 2022 to accelerate horizontal integration of sustainability issues within the Group.



Ennostar Chairman's Office

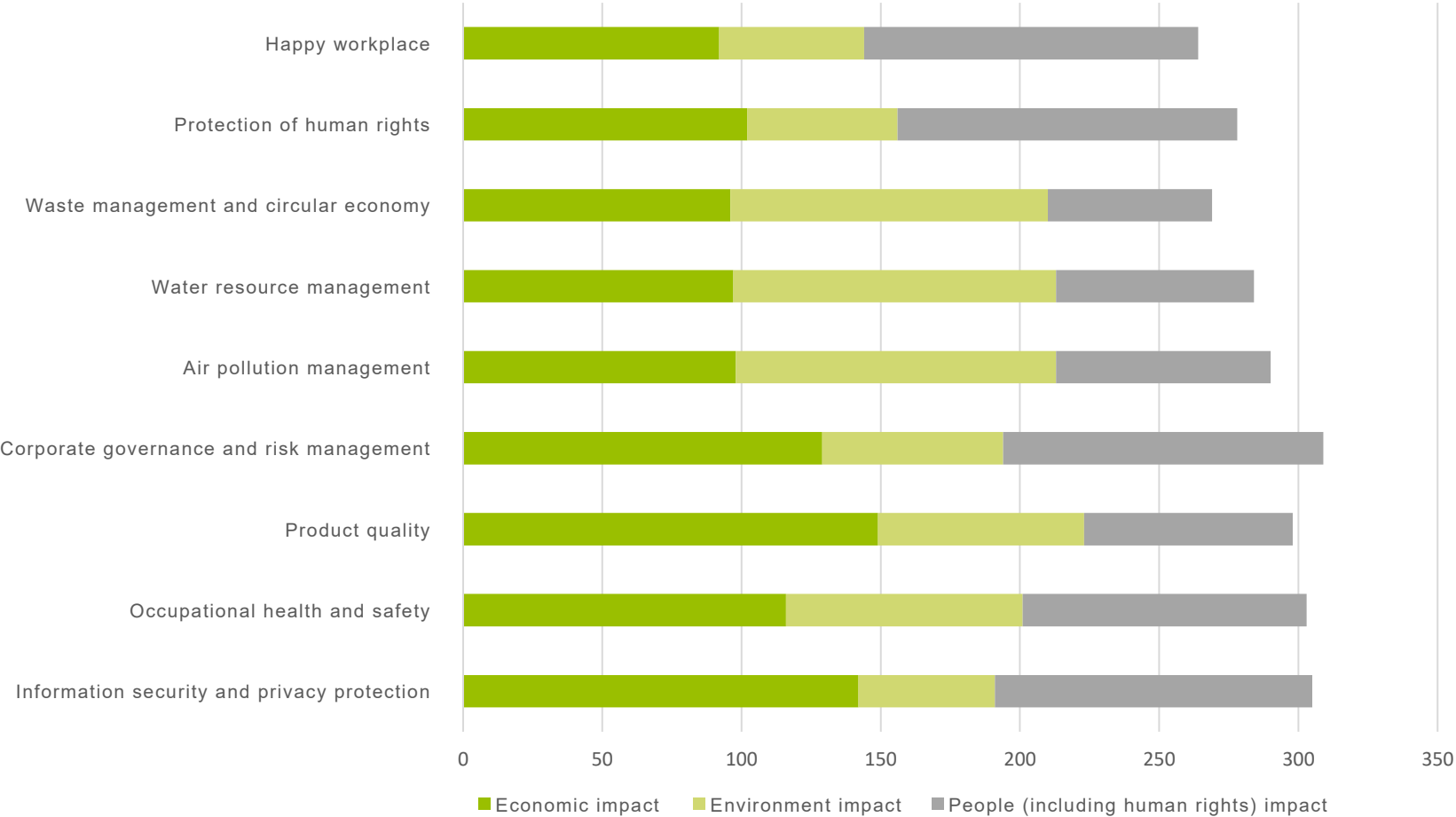
Paul Peng

Chairman

ESG is a component of long-term corporate competitiveness. The Ennostar Group has long invested in development of various ESG aspects. We also work with all employees to achieve our strategic ESG goals.

Materiality Analysis and Stakeholder Communication

Assessment Results for Material Topics



Stakeholder Identification and Engagement

We attach great importance to stakeholder interests and strives to establish two-way communication channels through a variety of communication methods to ensure that we can obtain an accurate understanding on issues of stakeholder concern; we review these issues in a timely manner and prioritize responses. As part of our response to important ESG issues and related tasks, we established eight ESG task groups in 2022 to coordinate related matters in hopes of gaining a comprehensive perspective of the whole Group, utilize the advantages of our three main subsidiaries, and achieve synergies.

Stakeholders	Communication Results
Employees	<ul style="list-style-type: none"> • We received a total of 85 complaints in 2022 • We initiated investigation procedures for all complaints, planned relevant training and promotions, and also provided counseling, medical aid, and other required assistance to concerned parties
Shareholders/investors	<ul style="list-style-type: none"> • Hosted seven investor conferences • Hosted one shareholders' general meeting • Publish monthly operational overviews before the tenth of each month and release quarterly reports
Clients	<ul style="list-style-type: none"> • Use of the Score Card framework to conduct customer satisfaction surveys; survey results increased by 7.4% compared with the previous year • Participation in forums such as 2022 Touch Taiwan and 2022 SEMICON Taiwan • Weekly video conferences with important clients and non-periodic client visits.
Suppliers/Contractors	<ul style="list-style-type: none"> • Formulated surveys based on supplier financial risks, local production ratios, and use of renewable materials • Conducted on-site and written audits of 100 suppliers and scored each supplier • Hosted more than 140 price negotiation meetings
Government institutes	<ul style="list-style-type: none"> • Identified 710 regulations related to occupational safety, only 1 of which may impact corporate operations • Attended all competent authority meetings on environmental issues relating to Group factory operations • Immediately responded to queries from competent authorities • Actively participated in related meetings and courses
Media	<ul style="list-style-type: none"> • Due to impacts from the pandemic, we did not host any press conferences or conduct any media interviews in 2022 • Released 174 posts on social media
Insurance companies	<ul style="list-style-type: none"> • Communicated with insurance companies through 36 meetings.
Banks	<ul style="list-style-type: none"> • We have relations with more than 22 banks and maintain fixed communications around once a month to receive updates on market conditions/regulatory compliance and discuss future collaborations. • Established sustainability-linked loans exceeding NT\$ 13 billion



Ennostar Corporate Development Office

Dale Yang

Vice President

We should establish ESG strategies and goals, incorporate ESG into Group strategies and operational activities, and shape a good corporate image of ESG.

Corporate Governance

Corporate Governance and Risk Management

- 2022 ranked at top 5% of listed companies in Corporate Governance Evaluations
- No corruption incidents occurred in 2022.
- A total of 6,344 Group and subsidiary employees participated in anti-corruption training over a total of 3,858 hours in 2022
- No Group subsidiaries incurred penalties from government sanctions, civil cases, or criminal proceedings related to major violations of social or environmental regulations in 2022.

Risk Management Processes and Operations



1. Establishment of a Risk Management Committee which facilitates smooth operations of all risk management teams
2. Optimization of risk management foundations and frameworks to enable practical implementation of risk management mechanisms
3. Use top-down methods to identify key risk items for the Group and use bottom-up methods to implement corporate risk management mechanisms
4. Enhance risk management awareness in all employees and establish a culture themed around risk management

When introducing enterprise risk management (ERM) mechanisms, our senior managers identified five common priority risk items for the Group: “Technological development, Supply chain, Talent shortages, Geopolitics, and Climate change (water/power shortage).” Following approval and confirmation by our highest risk governance unit (the Board) on November 3, 2022, we began implementing subsequent risk scenario analyses, risk assessments, response strategies, and action plans.

Targets for 2023:

- Complete establishment of Ennostar’s risk knowledge database, risk assessment standards, and methodologies starting with entry-level staff, and incorporate risk management in business strategies
- Adjust and optimize corporate risk management policies and procedures to gradually form a culture of corporate governance
- Complete top-down high-level risk assessments
- Complete bottom-up risk assessments
- Calibrate high-level risks and confirm risk items for the year

Our annual risk report meeting will be held in February 2024, where we will compile and report on risk management implementation results for the year.



Ennostar Finance & Accounting Management Office

BY Chang

Vice President

Ennostar is a company which emphasizes integrity, corporate governance, social investment, technological development, and environmental protection. We have already built a foundation for ESG developments over the years, and will continue to measure ourselves against higher standards and become a benchmark enterprise for ESG achievements in future.

Client Relations

All Group subsidiaries provide upstream and downstream LED products and integrated services to meet the different product design needs of our clients. We provide the most appropriate collaborative plans based on different client needs, continue to enhance client satisfaction, and strengthen client partnerships.

Protection of Customer Privacy

To better understand client needs and problems for enhancement of service quality, we conduct annual client satisfaction surveys to understand customer perceptions, expectations, and suggestions for Group service and product quality.

Five Main Aspects of Client Satisfaction Surveys :

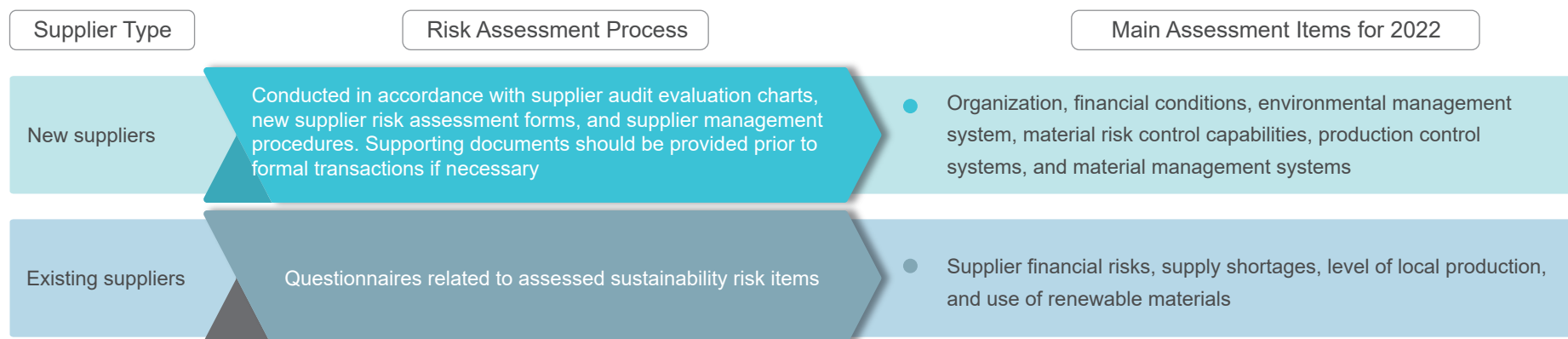
Five Main Aspects of Client Satisfaction Surveys



Sustainable Supply Chain

The Group actively works to establish close ties with local partners, stabilize supply through long-term collaborations and strategic alliances, and reduce risks from supply shortages to enhance supply chain efficiency, accelerate development of new products, and reduce additional expenditures. We hope to build mutual trust and benefits with our suppliers through long-term collaborations, establish more competitive transactions and payment models for joint achievement of sustainable development targets, and work together to create mutually beneficial optimizations of costs and quality.

Supplier Risk Assessment Processes and Items



Procurement Policies

In 2022, domestic suppliers accounted for more than 88% of all suppliers at our subsidiaries. However, it is necessary for Unikorn to procure expensive equipment and machinery from abroad to maintain operational competitiveness as the company is still in its initial stages of development and construction. Therefore, Unikorn's local procurement ratio is relatively low. In future, Unikorn plans to gradually raise local procurement amounts to reduce carbon footprints from procurement and to achieve our sustainability aims through green procurement.

2022 EPISTAR Partner

Seminar/Communication Ceremony

Solar Applied Materials Technology Corporation is an important supplier of raw materials for the Group and also a recipient of the 2021 TCSA Circular Economy Leadership Award for its "Gold Full Circular Economy Plan."



Lextar Quality Management Division

Wayne Lo

Senior Division Director

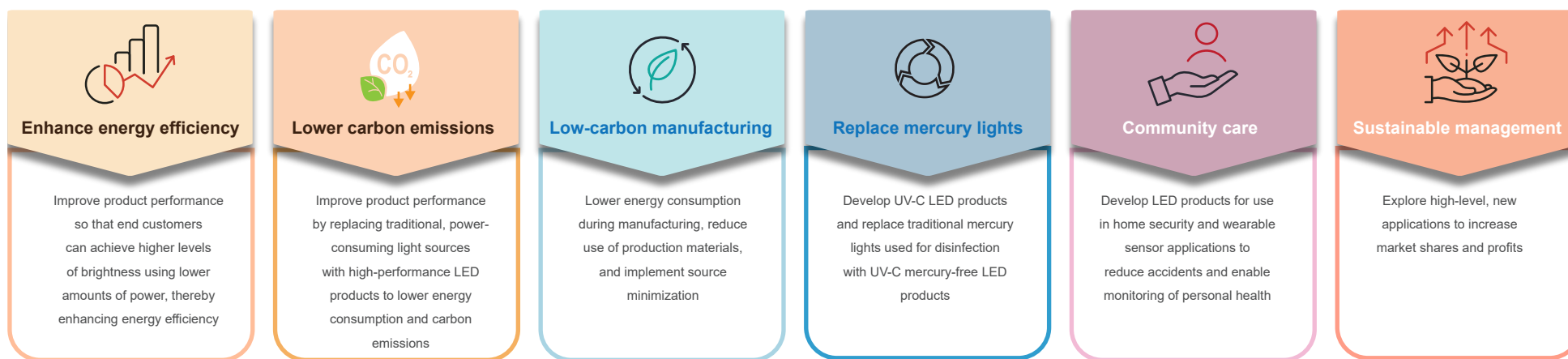
ESG is not a zero-sum game but a mutual benefit. I hope that the Group's sustainability team can build a sustainable management structure for corporate development, and work with the supply chain team in making contributions to environmental sustainability.

Leading Innovation

Innovation and R&D

- In 2022, the number of R&D personnel across the entire Group reached more than 2000 people
- In 2022, our investments in product R&D to NT\$ 2,723 million, accounting for 9.43% of the revenues.
- In 2022, we received approval for a total of 246 patents from various regions around the world. As of year-end 2022, the Group has received approval for a cumulative total of 5,600 patents.
- We premiered the world's first Micro LED technology with microchip in package and transfer technology in 2022, greatly reducing energy consumption by more than 20%.
- Our 5.1-inch transparent Micro LED display, which uses RGB Micro LED chips and Micro driver IC combined with a transparent glass substrate, has a transmittance rate greater than 70% and brightness levels can reach 3,000 nits.
- We developed two different backlight applications, Mini LED COB (Chip On Board) and POB (Package On Board)
- We focused on development of ultra-fine-pitch direct view display technology flip-chip Mini LED in 0404 package and special module technology, making it possible to produce 5-meter giant displays with ultrahigh color saturation and deep black.

Six innovation strategies



Unikorn Wafer Manufacturing Center

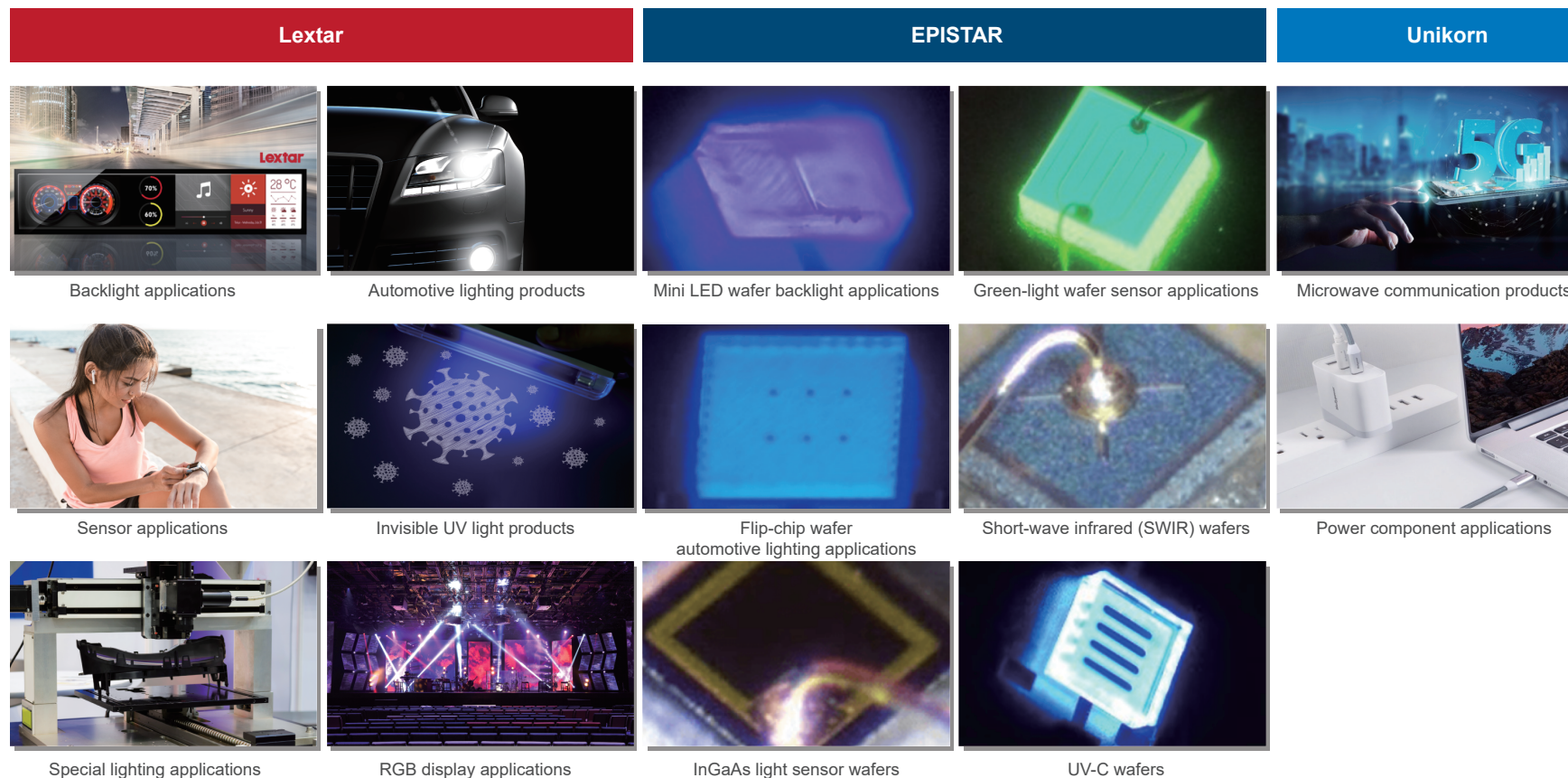
Allan Wu

Vice President

Corporate ESG investments and sustainable corporate operations go hand in hand. Initial investments definitely impact on operational performance, but it is also necessary to make medium and long term plans for investment, which should be done pragmatically in tandem with online, newspaper, magazine, and advertising promotions, so that we can shape our corporate image through small investments.

Focusing R&D on Prospective Key Products

In response to market needs and multidimensional developments, we have formulated prospective plans for new products and invested in R&D for new products related to backlights, lighting, automotives, grow lights, sensors, UVC products, and Micro LEDs:



Unikorn President's Office

JS Wen

President

I hope that the Group can lead ESG developments, minimize resource investments from subsidiaries, and achieve rapid growth and benefits in ESG. We should also estimate the ESG contributions of our products so that we can increase environmental benefits by selling more products such as power-saving LED and GaN products.



Epistar Operations Center

Roger Wu

Vice President

• Environmental:

Promote products and services related to environmental business opportunities such as high-efficiency LEDs and UV-LEDs and encourage internal improvements by reducing waste and emissions to build potential business opportunities from provision of external services.

• Social :

Strengthen IT incorporation in actual operations, achieve improvements through IoT and automation, and reduce dependence on manpower and long working hours. IT, equipment, or factory affairs departments can even use these opportunities to start their own businesses, thereby earning profits and enhancing employee welfare.

• Governance :

Young employees in the 21st century have a much higher need for work that is interesting and has long-term prospects. Companies with good corporate governance are able to be pragmatic and open-minded, and can review and revise rules that are unnecessary and redundant while encouraging entrepreneurship at work and building employee relations that enable mutual growth such as sports team or bands.

Green Designs

- In 2022, we worked with Feng Chia University to develop cadmium-free QD applications for white-light Mini LED backlight modules, improving costs and efficiencies by 20% and 30% compared with peer products.
- In 2022, our applications in lighting, backlight, automotive, sensor, and rapid-charging end products reduced power consumption by 546 million kWh and carbon emissions by 278,000 tons.
- Our subsidiary Lextar Electronics produced the "AM Micro LED Transparent Display" using our exclusive patented i-pixel +TM technology, and received the 2022 Silver Smart Display Industrial Alliance (SDIA) Award
- Carbon reductions from end applications and products in 2022

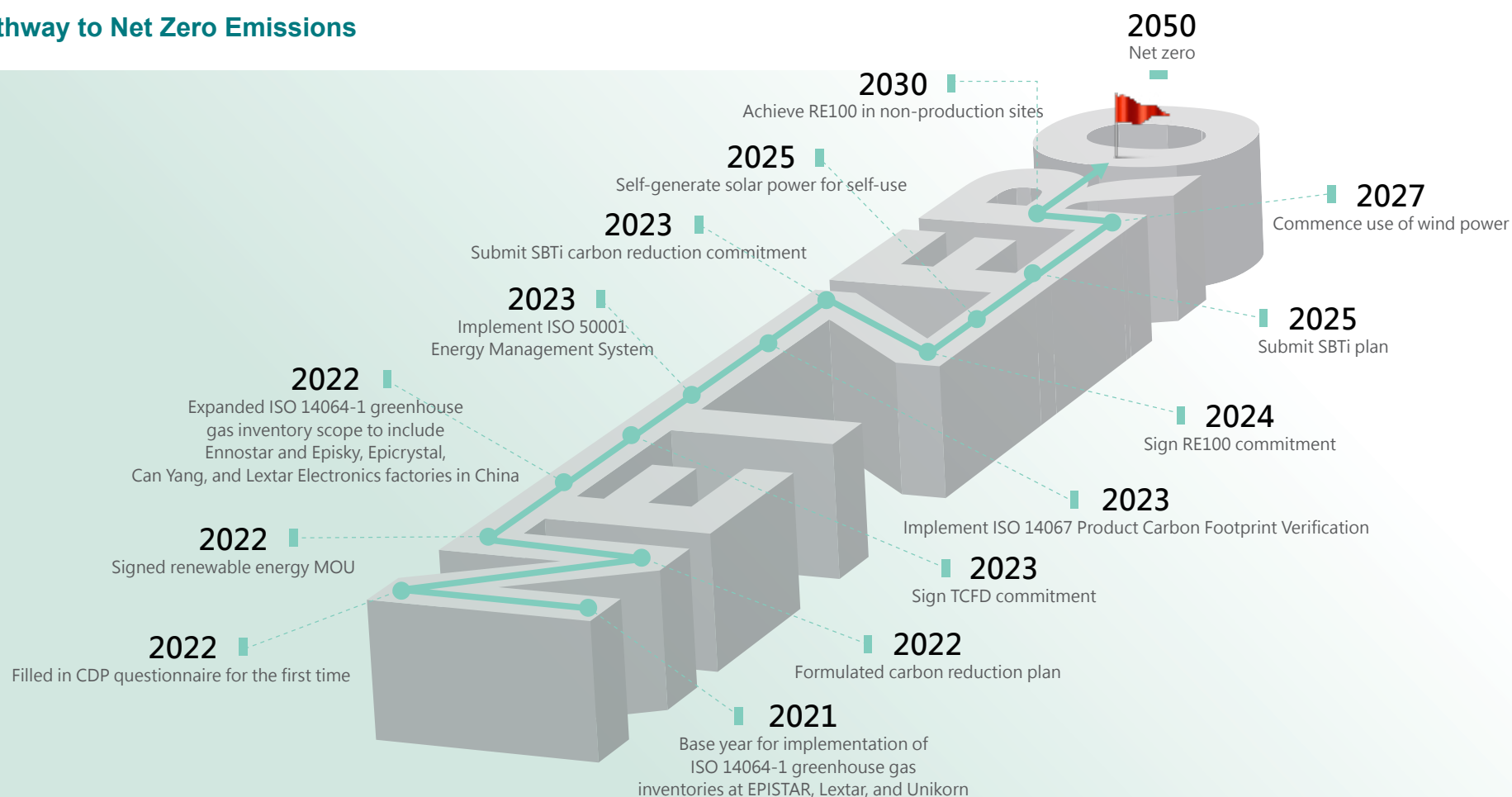
End applications and products	Energy savings from end products (million kWh/year)				metric tons CO ₂ e
	EPISTAR	Lextar	Unikorn	Total energy savings across the Group	
Lighting	144.60	5.14	-	149.74	76,218
Backlights	215.01	136.35	-	351.36	178,842
Automotives	18.62	-	-	18.62	9,478
Sensors	-	0.48	24.44	24.92	12,684
Rapid charging	-	-	1.28	1.28	652
Other	-	-	0.12	0.12	61
Total	378.23	141.97	25.84	546.04	277,934

Green Operations

Climate Actions

- We plan to achieve 25% renewable energy usage by 2030 and meet RE100 requirements in 2050 to mitigate the effects of global warming.
- Received a B rating on the Carbon Disclosure Project (CDP) Climate Change questionnaire in 2022.

Pathway to Net Zero Emissions



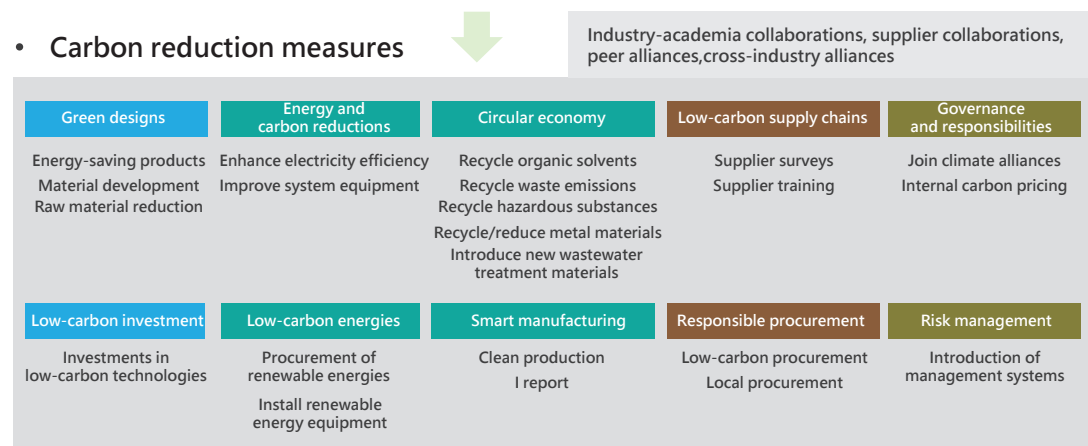
- Establish baseline



- Carbon reduction strategies



- Carbon reduction measures



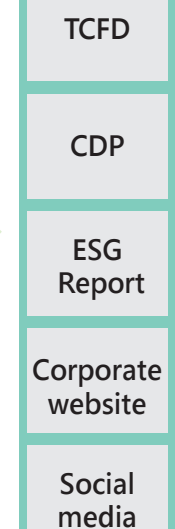
- Goals



Net zero

ESG Committee/Periodic tracking and review

Disclosures



Stakeholders



Figure 2. Carbon blueprint

Domestic and Foreign Climate Initiatives

We plan to join the SBTi in 2023 and join the RE100 and other international initiatives within the next two years.



AUO Supplier Conference

As a key supplier of AUO Corporation, we jointly committed to achieve the goal of reducing carbon emissions by 20% in 2030



BenQ Qisda Group Sustainable Initiative Action Conference

As a key supplier of BenQ Qisda Group, we jointly committed to achieve the goal of reducing carbon emissions by 20% in 2030



Taiwan Climate Partnership

In 2022, we became a member of the Taiwan Climate Partnership to demonstrate our energy and carbon reduction commitments. We work with our industry supply chain to achieve mutual growth as we work toward RE100 and EV100 goals



Task Force on Climate-Related Financial Disclosures

Ennostar and senior executives signed on to become a Task Force on Climate-Related Financial Disclosures supporter

Greenhouse Gas Emissions and Management

Greenhouse Gas Type	Carbon Emissions (metric tons CO ₂ e)	Boundaries	Reduction Measures
Category 1: Direct greenhouse gas emissions	66,085.75	All factories included in this Report	Planned gradual installation of local scrubbers which contain equipment to reduce fluorine gases and achieve carbon reduction benefits
Category 2: Indirect greenhouse gas emissions	280,416.30	All factories included in this Report	<ul style="list-style-type: none"> Established a smart electricity usage management platform to monitor energy efficiency and prevent unnecessary energy wastage Centralized production plants; reduced machinery loads to conserve energy; and adjusted chillers, temperatures, humidity levels, and dew points in accordance with machine load Machinery unit adjustments, RA scheduling optimization, energy conservation lighting, and performance enhancements Planned procurement of renewable energies, including solar power, wind power, and other renewable energies
Category 3: Indirect greenhouse gas emissions from transportation	597.44	Ennostar, EPISTAR, Lextar, Unicorn	N/A
Category 4: Indirect emissions from products used	41,516.50	EPISTAR, Lextar, Unicorn	Enhanced total yield by 2% and reduced use of raw materials

Note 1: EPISTAR and Lextar used the GWP value in the United Nations Intergovernmental Panel on Climate Change Fourth Assessment Report (AR4) released in 2007.

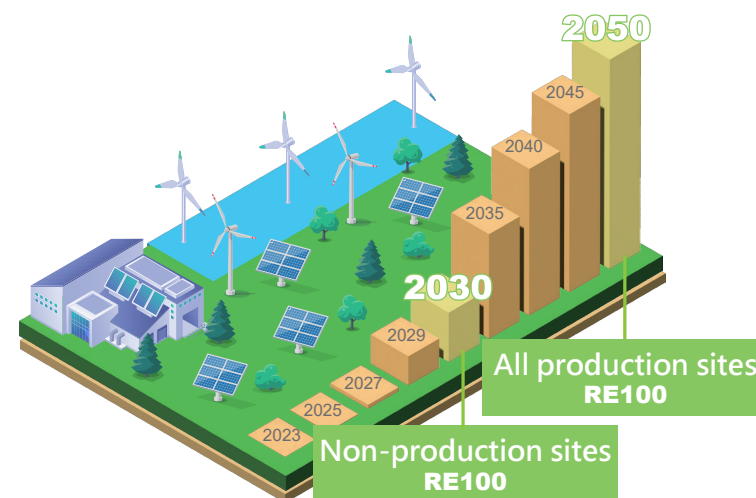
Note 2: Ennostar, Episky, Epicrystal, and Can Yang used the GWP value in the United Nations Intergovernmental Panel on Climate Change Sixth Assessment Report (AR6) released in 2022.

Energy Management

Ennostar Renewable Energy Blueprint

In response to the government's 2050 net zero emissions goal and to exert corporate influence, the Group has gradually procured renewable energy contracts and other renewable energy certificates, formulated renewable energy policies, and aims to achieve the RE100 goal in non-production sites by 2030 and the RE100 goal across the entire Group by 2050.

We plan to focus on solar energy/onshore wind power in 2023–2027, adopt solar power/onshore wind power/offshore wind power and other renewable energies in 2027–2050, and use comprehensive and planned renewable energy procurement to lead the Group in achieving the RE100 goal.



Group Energy Usage

Item	Unit	2021	2022
Total energy consumption	GJ	2,118,807	1,972,009
Energy intensity	(GJ/ million NTD)	58	68
Proportion of electricity usage to total energy usage	%	95.8%	96.3%
Renewable energy usage	%	0.7%	0.7%

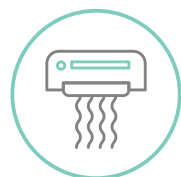
Energy Management and Conservation Actions

The Group implements energy management and conservation through four major actions, including lighting management, air-conditioning management, equipment and system improvement, and process efficiency improvement. In 2022, we reduced electricity consumption by 20.74 million kWh and reduced carbon emissions by 11,040 metric tons CO₂e.



Lighting management

Reduced power consumption by **239** million kWh and **1,364** metric tons CO₂e of carbon emissions



Air-conditioning management

Reduced power consumption by **424** million kWh and **2,454** metric tons CO₂e of carbon emissions



Equipment and system improvement

Reduced power consumption by **331** million kWh and **1,731** metric tons CO₂e of carbon emissions



Process efficiency improvement

Reduced power consumption by **1,078** million kWh and **5,490** metric tons CO₂e of carbon emissions

Looking to 2023-2025, we have formulated four action plans and continue to invest in energy-saving improvements, improve energy efficiency, implement integrated management measures, and reduce carbon emissions from operations.

Action Plan	Description of Actions
Achieve annual energy-saving rate of 1%	<ul style="list-style-type: none"> Formulate energy-saving plans during the first quarter of each year Formulate five-year plans for replacing major energy-consuming equipment and conduct annual reviews and adjustments based on equipment efficiency/service life/operational risk and operational demands Assess benefits of new technologies/equipment
Implement ISO 50001 Energy Management System	<p>In 2023, we plan to</p> <ul style="list-style-type: none"> Implement the ISO 50001 Energy Management System in pilot factories Establish factory system baselines and unit energy consumption levels, and identify energy-saving opportunities <p>Expand implementation to all factories in Taiwan in 2025</p>
Establish digital energy platform	<p>In 2023, we plan to</p> <ul style="list-style-type: none"> Launch a digital platform in pilot factories, compile energy information <p>Expand implementation to all factories in Taiwan in 2025</p>
Renewable energy usage and planning	<ul style="list-style-type: none"> Our factories have established solar power generation systems. We plan to sell generated power in the short term and initiate self-use starting in 2025. All plans are formulated in accordance with Ennostar's renewable energy blueprint.



Lextar Technology Center

CN Huang

Vice President

LEDs are in and of themselves a green industry. Our Lextar T01 factory has received Taiwan's first "Green Building Gold Level LED Factory Certification," and we hope to integrate business operations and sustainable development to achieve mutual wins for shareholders, employees, and clients.

Environmental Management

Water Resource Management

Water Resource Management and Reduction Actions

The Group implements water resource management in accordance with the PDCA process. In 2022, We invested NT\$ 2.13 million in energy-saving construction projects and our entire recycling system recycled and reused an additional 532 million liters of water compared to the base year (2021), achieving an annual efficiency increase of almost 30%.

Production optimization



Reduced annual water consumption volumes by 21.72 million liters

- Reduced pure water consumption for each unit of production capacity
- Replaced traditional quartz sand filter materials with antibacterial filter materials (AFM) (pure water conservation project): Reduced backwash water volumes and energy consumption; prevented bacteria from forming biofilm coatings which lower exchange times and generated water volumes; and eliminated unstable system operations from extracting resin to clear biofilms

Water recovery and water cycles



Reduced annual water consumption volumes by 41.18 million liters

- Recovery methods included ROR wastewater recovery, QDR wastewater recovery, polishing wastewater recovery, air-conditioner condensate recovery, RO filter water recovery, low-concentration drainage recovery
- Heavy metals in wastewater are absorbed using nanoporous glass material: As heavy metals in wastewater are easily absorbed, water resources can be recycled and absorbed metals can be recycled and reused. Currently in development with the Industrial Technology Research Institute

Looking to 2023-2025, in the short term, we plan to continue participating in government-organized plans, using and purchasing water from the Hsinchu Desalination Plant and Anping Reclaimed Water Plant in the Southern Taiwan Science Park; our long-term goal is to import water during water shortages. We also plan to invest NT\$ 15 million in equipment upgrades which are expected to reduce unit production area (m2) wastewater volumes by 34%. Ennostar will also conduct weekly water consumption reviews, establish weekly consumption volumes and production capacity trends, aim to increase recycled (reduced) water volumes by more than 1% across all factories every year, and formulate budgets based on factory water recycling plans.

Water Resource

Item	Unit	2021		2022	
		Total consumption	Regions under water stress	Total consumption	Regions under water stress
Total water withdrawal	Million liters	3,846	45	3,492	318
Water withdrawal intensity	Million liters/ million NTD	0.11	-	0.12	-
Total discharge	Million liters	3,111	390	2,822	293
Total water consumption	Million liters	735	-	670	-

Recovered and reused water	Unit	2021	2022
Total recovered and reused water	Million liters	1,814	2,346

Waste Management and Circular Economy

Waste Management	<ul style="list-style-type: none"> In 2022, our waste recycling rate was 84%
Circular Economy	<ul style="list-style-type: none"> Our EHS departments have established a goal of “Increasing waste recycling ratios and waste recycling intensities per unit of production capacity (for each million of revenue) by 3%” to achieve circular economy within the Group In 2022, we completed audits of 55 removal/disposal companies, achieving a 100% evaluation completion rate

Waste Management and Reduction Actions

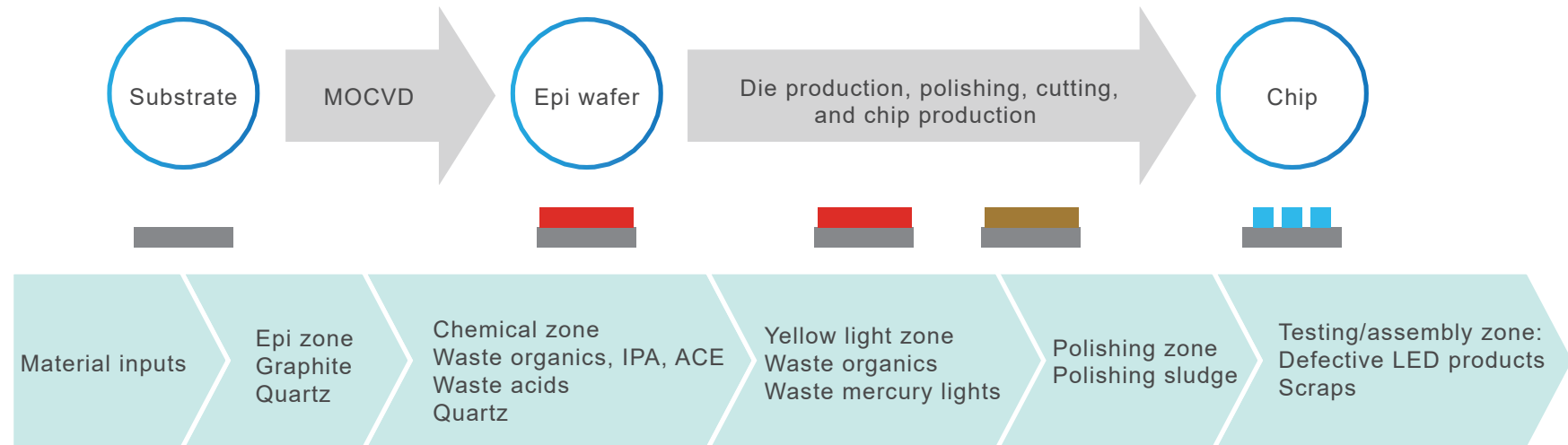
Waste Reduction Project	Achievements in 2022
Source reduction of process materials (Lextar)	<ul style="list-style-type: none"> Reduced loss rates for fluorescent glue by 4.7% and reduced costs by NT\$ 1.4 million Decreased use intensities for cutters (ton/million in revenue) by 25% Reduced UV resistant film use intensities (ton/million in revenue) by 10% (4.09 tons)
Reduction of packaging materials (EPISTAR)	<ul style="list-style-type: none"> Reduced blue foam volumes by 12,000 pieces per year
Reduction of packaging materials (Lextar)	<ul style="list-style-type: none"> Total volume of 11,929 pieces (141.2 kg)
Reuse packaging materials (Lextar)	<ul style="list-style-type: none"> Total amount of 8.42 tons
Source reduction of packaging materials (Lextar)	<ul style="list-style-type: none"> Total amount of 845 kg
Waste reduction	<ul style="list-style-type: none"> Reduced recycled resources by 1.21 tons Waste generated per unit of production was reduced by 4% and waste recycling ratio per unit of production increased by 3%

Waste Management and Reduction Actions

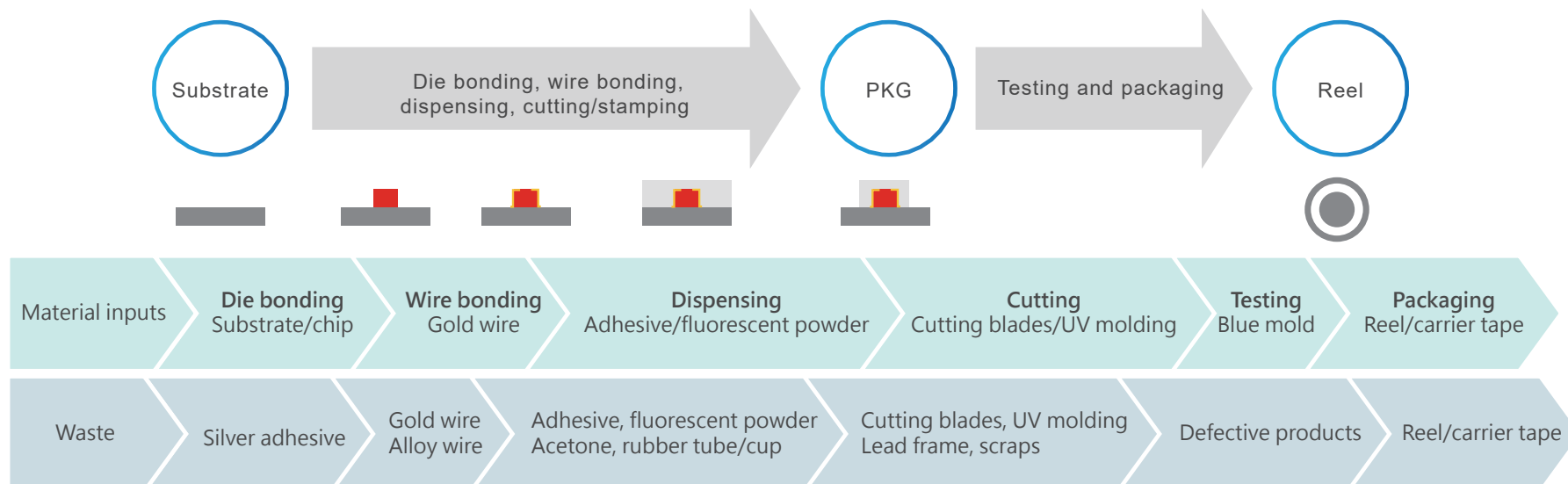
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Waste reduction	<ul style="list-style-type: none"> Reduced recycled resources by 1.21 tons Waste generated per unit of production was reduced by 4% and waste recycling ratio per unit of production increased by 3%
Reduction of waste solvents (Epistar, Unikorn, Epicrystal, Can Yang)	<ul style="list-style-type: none"> Recycling and reuse volumes <ul style="list-style-type: none"> √ Waste photoresist (NMP): 127 tons √ IPA: 140 tons √ ACE: 56.6 tons Recycled 201 empty solvent tanks
Waste recycling (Lextar)	<ul style="list-style-type: none"> Total recycled waste amounted to 5.052 tons
Waste recycling (Lextar)	<ul style="list-style-type: none"> Cleared 900 kg of lead frames which were used to generate 21 kg of pure silver and 700 kg of pure copper

All Ennostar factories have established "Waste Management Procedures" to ensure that waste generated during factory operations are treated legally, appropriately, and safely to minimize environmental impacts. We have also established "Supplier/Contractor EHS Appraisal Regulations" which stipulate that we only collaborate with qualified waste disposal companies which have passed our checks. Ennostar regularly conducts supplier audits to ensure that collaborating suppliers dispose of waste in accordance with contracts and regulations.

EPISTAR Waste Generation Chart and Waste Management Actions



Lextar Waste Generation Chart and Waste Management Actions

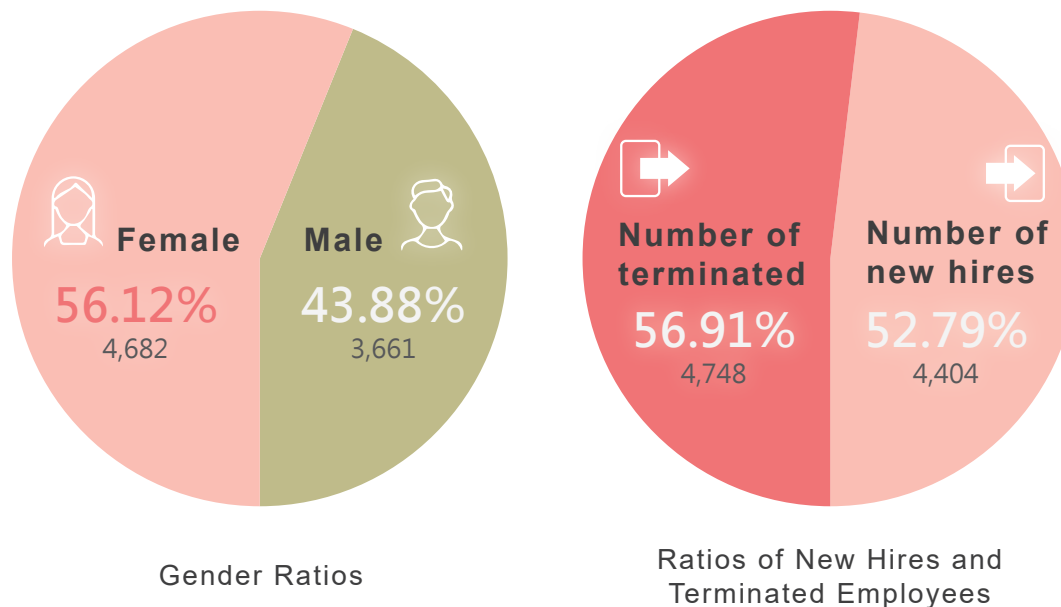


Inclusiveness and Growth

Talent Development

Talent Strategies

As of year-end 2022, the Group has a total of 8,343 employees in Taiwan and China. Our personnel distributions are as follows:



Industry-Academia Collaborations

At Ennostar, we consider it our responsibility to cultivate professional students who can become pillars of society. We continue to establish rich and diverse industry-academia collaborations by providing scholarships to schools all around Taiwan, organizing courses and classroom lectures, donating school equipment, and setting up internship programs.

Talent Cultivation

We nurture employees from the five axes of "self-development," "management capabilities," "professional capabilities," "general capabilities," and "orientation training for new employees." Our subsidiaries EPISTAR and Lextar have established "EPISTAR University" and "Lextar Academy" based on these axis items in line with key company projects and invested corporate resources in cultivating professional talent.

- In 2022, the Sustainability College hosted 9 courses attended by 4,216 outstanding managers and colleagues, achieving an average satisfaction score of 4.63 out of 5.
- In 2022, We invested a total of NT\$ 1.92 million in EPISTAR University and the overall satisfaction score was 4.68 out of 5.
- In 2022, We invested a total of NT\$ 0.78 million in Lextar Academy and the overall satisfaction score was 9.2 out of 10.

Happy Workplace

- Ennostar has completed structural salary adjustments and performance-based salary adjustments for the year. Average salary adjustment rates ranged from 8-15%. We also significantly raised starting salaries for new college graduates by 16-20% to encourage outstanding talent to join Ennostar and our subsidiaries EPISTAR, Lextar, and Unikorn.
- The Group hosts annual online refresher courses and examinations on “human rights policies” through our internal platform. These courses achieved training completion rates of 100%.
- We provide contract renewal bonuses to our migrant workers. A total of NT\$ 10.3 million was distributed to 687 people in contract renewal bonuses in 2022

Ennostar Group Overall Rewards Strategies

We focus on employee “career development,” “physical and mental health,” “remuneration and benefits,” and “social lives.” We maintain competitive salaries and benefits while also offering customized physical and mental health assistance programs.

Career development

- Provide sound learning environments
- Promote talent flow through internal rotations and promotions

Remuneration and benefits

- Maintain competitive salaries to retain and attract talent
- Diverse benefits and rewards

Physical and mental health

- Comprehensive physical and mental care
- Recreational gym equipment
- Personalized employee assistance program

Social interactions

- Comprehensive physical and mental care
- Recreational gym equipment
- Personalized employee assistance program

Compensation and Bonus Systems

Employee share ownership trust

A total of 900 employees joined our employee share ownership trusts, achieving a participation rate of 31%.

Childcare subsidies

A total of 496 children benefited from these subsidies, which amounted to NT\$ 8.928 million.

Employee stock options

All employees can exercise this option and 93% of colleagues expressed a willingness to participate in this program.



Ennostar HR & Administration Office

Jonah Tyan

Special Assistant
and Senior Division Director

1. Firstly, we should formulate clear ESG visions, strategies, and action plans based on Ennostar’s corporate and product characteristics
2. We should view ESG as an important corporate development strategy rather than simply a way to comply with regulations or client requirements
3. We should strengthen senior executive (division directors and above) management responsibilities related to ESG

Occupational Health and Safety

- All Group subsidiaries have obtained ISO 45001 verifications and management systems cover 100% of employees.
- Lower the number of major deficiencies discovered during external ISO 45001 and CNS 45001 to less than zero.
- In 2022, we conducted a total of 42 emergency response drills, including 15 drills at EPISTAR, 7 drills at Lextar, 3 drills at Unikorn, and 17 drills at Lextar Electronics (including 6 tabletop simulations).
- The Group organized 102 occupational health and safety training courses in 2022, and a total of 24,950 people attended these training courses.
- All 103 of our environmental health and safety personnel have obtained occupational health and safety certification and qualifications. We conduct training and certification for internal environmental health and safety auditors, and undergo internal audits of environmental health and safety systems at least once every year.
- No high-consequence work-related injury occurred in 2022.
- No work-related ill health incidents or mortalities occurred during the year. The Group incurred no financial losses due to violations of employee health and safety laws in 2022.
- EPISTAR received I Sports Enterprise certification.

Occupational Health Protections and Care Framework

The Ennostar Group considers protection of employee physical and mental health to be a core duty of employee care. We provide periodic employee health checks, establish comprehensive systems to prevent employees from suffering unlawful infringements and overwork, and actively build healthy and friendly workplace environments. We evaluate all possible environment and work factors that could cause injuries or diseases, establish corresponding preventive measures, and track related improvements.



Unikorn Chairman's Office

Wayne Shi

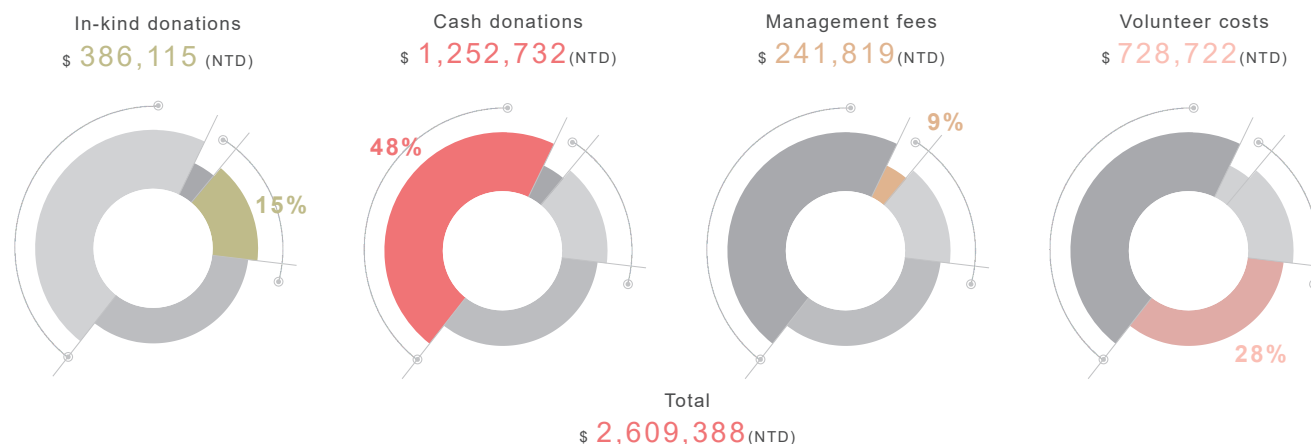
Chairman

1. Organize regular long-term plans for charity activities
2. Set energy and water conservation goals, review progress through regular meetings
3. Manage industrial waste
4. Organize employee health activities, and implement employee education and training plans

Mutually Beneficial Society

Community Investment

We encourage our employees to voluntarily organize and participate in various social participation events. In 2022, the Group invested a total of NT\$ 2.6 million in social participation.



EPISTAR—Diverse Volunteer Activities

- EPISTAR conducts public welfare activities along four main axes (Children's Education/ Care for the Disadvantaged/ Animal Protection/ Environmental Protection), and the Employee Relations Department organizes an abundant and diverse series of volunteer activities for Group employees under the motto of "Social influence begins from your own personal actions."
- [Northern Taiwan] Study Companions for Children × HsinChu I-Link Community Care Association
- [Central Taiwan] Cellphone Volunteer Instructors × Taiwan Community University Teacher's Association
- [Southern Taiwan] Animal Welfare Volunteers × TNR.Animal
- Elder Care × Huashan Social Welfare Foundation Lucky Doll Origami Well-wishing Activity × N6, N9
- One Bag, One Group of Partners —Environmental protection with you, me, and them.
- EPISTAR—You Can Be Santa Claus
- EPISTAR—Free Store
- EPISTAR—Luck for A Thousand Years Bringing Joint Happiness

Lexstar—Read Together to Achieve Dreams Project

Read Together to Achieve Dreams— Establishing a multifunctional learning classroom at Huayuan Elementary School in Wufeng Township:

For the past 12 years, Lexstar has continuously been involved in the improvement of learning environments for schoolchildren in rural areas. In 2022, the Dreams Come True Project Train arrived at the 11th Dreams Come True School— Huayuan Elementary School in Wufeng Township.

A total of 145 staff members participated in the donation drive, which eventually raised a total of NT\$ 374,388. The donations were used to improve the library, music, and learning classrooms of Huayuan Elementary School, allowing these three neighboring spaces to become a multifunctional learning center for students where instruction in music (ancient ballads), reading and writing, and indoor sports could be conducted.



Epistar Operations Center

CC Lai

Vice President

1. Apart from our own efforts in ESG promotion, we should also require our supply chains to comply with relevant regulations for achieving sustainable operations
2. We should fulfill social responsibilities through regular activities organized by the Employee Relations Department and provide necessary assistance on social issues
3. We should continue to support green manufacturing