Handbook on Taiwan Companies Participating in International Carbon Reduction Initiatives

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Preface

In response to global low-carbon and green transformation trends, major brands around the world have responded by participating in carbon reduction initiatives. Some major initiatives include the Science Based Targets Initiative (SBTi) which require companies to evaluate their own carbon reduction mechanisms and goals through scientifically validated methods. Other initiatives include the RE100 in which participating companies commit to using 100% green electricity by 2050 at the latest, the EV100 asks corporate fleets to transform to using electric vehicles, and the EP100 promotes corporate improvement of green productivity (for detailed initiatives introduction, please see p.VII~p.XII). Fueled by low-carbon environmental trends, the development of a green economy has become a global consensus.

By July of 2023, more than 5,700 companies are taking action within the SBTi initiative, 3,199 companies are committed to reducing emissions with science based targets, and 2,271 companies have declared to achieve net zero emissions.

Taiwan industries have also proactively partake in the trend, as of July of 2023, 110 Taiwanese companies have joined SBTi, and 29 companies have joined RE100. In order to assist Taiwanese enterprises to play a part within the Net Zero trade trend, the handbook gathers information on Taiwanese product exporters (see Table 1) that are currently participating in international carbon reduction initiatives such as SBTi, RE100, EV100, EP100, etc., to increase international presence within its respective industries, and to demonstrate that Taiwanese firms are proactively responding to international Net Zero emission trends.

SBTi

Science Based Targets initiative (SBTi) mobilizes the private sector to take urgent climate action. By guiding companies and financial institutions in science-based target setting, it enables them to tackle global warming such as reducing greenhouse gas (GHG) emissions while seizing benefits and boosting competitiveness during the transition to a zero-carbon economy.

The Science Based Targets initiative (SBTi):

- Defines and promotes best practice in emissions reductions and net-zero targets in line with climate science.
- Provides technical assistance and expert resources to companies who set science-based targets in line with the latest climate science.
- Brings together a team of experts to provide companies with independent assessment and validation of targets.
- The SBTi is the lead partner of the Business Ambition for 1.5°C campaign (an urgent call to action from a global coalition of UN agencies, business and industry leaders, mobilizing companies to set net-zero science-based targets in line with a 1.5°C future).

RE100

RE100 is a global initiative to engage, support and showcase global influential businesses committed to 100% renewable electricity, working to massively increase corporate demand and delivery of renewable energy. Companies need to select a target date for achieving 100% renewable electricity, the minimum requirements are 60% by 2030, 90% by 2040 and 100% by 2050.

RE100 members look to policymakers to enact the following 6 policy measures to support corporate sourcing of renewable electricity:

- Create a level playing field on which renewable electricity competes fairly with fossil-fuel electricity and reflects the cost-competitiveness of renewable electricity.
- Remove regulatory barriers and implement stable frameworks to facilitate the uptake of corporate renewable electricity sourcing.
- Create an electricity market structure that allows for direct trade between corporate buyers of all sizes and renewable electricity suppliers.
- Work with utilities or electricity suppliers to provide options for corporate renewable electricity sourcing.
- Promote direct investments in on-site and off-site renewable electricity projects.
- Support a credible and transparent system for issuing, tracking, and certifying competitively priced Environmental Attribute Certificates (EACs).

EV100

EV100 is a global initiative asking companies committed to accelerating the transition to electric vehicles (EVs) and making electric transport the "new normal" by 2030.

Companies seeking to join EV100 need to make public commitment to at least one of the following by 2030:

- Switch their fleets up to 7.5t to electric vehicles
- Install EV charging infrastructure at their relevant premises for staff and/or customers

Companies can choose to make the commitment in one or more of four influence areas:

- Directly controlled fleets (owned/leased)
- Service provider contracts
- Workplace charging
- Customer charging

EP100

EP100 offers a forum for sharing best practices and showcasing leadership of global businesses dedicated to making bold progress towards public commitments on energy productivity, driving clean tech innovation, and delivering emission reduction goals. EP100 members are advancing energy efficient technologies, generating green growth, improving competitiveness, and banking substantial cost savings.

Companies seeking to join EP100 can choose among three commitments:

- Doubling energy productivity
- Cutting out energy waste
- Owning and operating energy-smart buildings

CDP

Carbon Disclosure Project(CDP) is a non-profit organization that collects global self-reported environmental impact data for companies, cities, states, regions, and other entities. CDP has one of the largest, most comprehensive databases on voluntary environmental impact data worldwide.

CDP global survey opens in April for CDP signatories to submit responses by July every year, questionnaire contains three primary sections: climate change, forests, and water security. A high CDP score is supposed to be indicative of a company's environmental awareness, advanced sustainability governance and leadership to address climate change.

Company goes through 4 main steps:

- Disclosure of current position
- Environmental impact awareness
- Management
- Leadership

TCFD

The Task Force on Climate-Related Financial Disclosures (TCFD) was established by the Financial Stability Board (FSB) to develop guidelines for voluntary consistent climate-centered financial risk disclosures across industries and for use by companies, banks, and investors in providing information to stakeholders. This increase the amount of reliable information on financial institutions' exposure to climate-related risks and opportunities which will strengthen financial stability and in turn transition to a more stable and sustainable economy.

The Recommended Climate-Related Financial Disclosures are structured around 4 core elements of how organizations operate:

- Governance: The organization's governance around climate-related risks and opportunities
- Strategy: The actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy and financial planning
- Risk Management: The processes used by organization to identify, assess, and manage climate-related risks
- Metrics & Targets: This is used to assess and manage relevant climate-related risks and opportunities

Table 1. List of Taiwan Companies Participating in Carbon Reduction Initiatives (By Alphabetical Order of Company Names)

*Last update: July, 2023

				Carbon Reduction Initiatives					
No.	Company Name	Industry	SBTi Status	RE100	EV100	EP100	Carbon Disclosure-TCFD	Carbon Disclosure - GHG Inventory and Management	Internal Carbon Price
1	AcBel Polytech Inc.	Technology and Manufacturing	Business Ambition for 1.5°C				●	●	
2	Acer Inc.	Technology and Manufacturing	Committed to set SBT target	●			●	●	
3	Acrox Technologies Co., Ltd.	Technology and Manufacturing	Committed to set SBT target						
4	AD-II Engineering Inc. (microSHIFT)	Technology and Manufacturing	1.5°C by 2030						
5	Advantech Co., Ltd.	Technology and Manufacturing	Well below 2°C by 2030	●			●	●	
6	Arcadyan Technology Corporation	Technology and Manufacturing	Committed to set SBT target				●	●	
7	Ardentec Corporation	Technology and Manufacturing	–	●			●	●	
8	ASE Technology Holding, Co., Ltd.	Technology and Manufacturing	Well below 2°C by 2030				●	●	
9	ASUSTek Computer Inc.	Technology and Manufacturing	Committed to set SBT target	●			●	●	
10	AU Optronics Corporation	Technology and Manufacturing	–	●			●	●	875 NTD per ton in 2020

* ● : Marked cells are initiatives the companies have participated in.

Note: Majority Taiwan companies with carbon disclosure mechanisms have taken GHG Inventory and Management and applied TCFD, other disclosure initiatives we have surveyed also includes the CDP.

*Last update: July, 2023

No.	Company Name	Industry	SBTi Status	Carbon Reduction Initiatives					
				RE100	EV100	EP100	Carbon Disclosure-TCFD	Carbon Disclosure - GHG Inventory and Management	Internal Carbon Price
11	Catcher Technology Co., Ltd.	Technology and Manufacturing	Committed to set SBT target					●	
12	Celxpert Energy Corporation	Technology and Manufacturing	Committed to set SBT target						
13	Cheng Uei Precision Industry Co., Ltd. (FoxLink)	Technology and Manufacturing	1.5°C by 2030					●	
14	Chicony Group	Technology and Manufacturing	1.5°C by 2030				●	●	
15	Chung Hwa Pulp Corporation	Technology and Manufacturing	Committed to set SBT target				●		
16	Compal Electronics, Inc.	Technology and Manufacturing	Committed to set SBT target				●	●	
17	Coretronic Corporation	Technology and Manufacturing	Committed to set SBT target				●	●	
18	CymMetrik Enterprise Co., Ltd.	Technology and Manufacturing	Committed to set SBT target						
19	Darfon Electronics Corp.	Technology and Manufacturing	Committed to set SBT target				●	●	
20	Delta Electronics, Inc.	Technology and Manufacturing	1.5°C by 2030	●	●		●	●	300 USD per ton in 2020

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No.	Company Name	Industry	SBTi Status	Carbon Reduction Initiatives					
				RE100	EV100	EP100	Carbon Disclosure-TCFD	Carbon Disclosure - GHG Inventory and Management	Internal Carbon Price
21	E Ink Holdings Inc.	Technology and Manufacturing	Committed to set SBT target	●		●	●	●	
22	Far Eastern New Century Corporation	Technology and Manufacturing	Committed to set SBT target				●		
23	Flexium Interconnect, Inc.	Technology and Manufacturing	–	●			●	●	
24	Formosa Advanced Technologies Co., Ltd.	Technology and Manufacturing	Well below 2°C by 2030						
25	Formosa Plastics Corporation	Technology and Manufacturing	Well below 2°C by 2030				●	●	
26	Formosa Sumco Technology Corporation	Technology and Manufacturing	Well below 2°C by 2030						
27	FSP Technology Inc.	Technology and Manufacturing	–				●	●	
28	Fulgent Sun Group (Fulgent Sun International (Holding) Co., Ltd.,)	Technology and Manufacturing	–					●	
29	General Interface Solution (GIS) Holding Ltd.	Technology and Manufacturing	Committed to set SBT target					●	

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*Last update: July, 2023

No.	Company Name	Industry	Carbon Reduction Initiatives						
			SBTi Status	RE100	EV100	EP100	Carbon Disclosure-TCFD	Carbon Disclosure - GHG Inventory and Management	Internal Carbon Price
30	GlobalWafers Co., Ltd	Technology and Manufacturing	–	●			●	●	
31	Hon Hai Precision Industry Co., Ltd.	Technology and Manufacturing	Business Ambition for 1.5°C				●	●	
32	HOSEA Precision Co., Ltd.	Technology and Manufacturing	1.5°C by 2030						
33	HTC Corporation	Technology and Manufacturing	Committed to set SBT target				●		
34	Hwa Meei Optical Co., Ltd.	Technology and Manufacturing	1.5°C by 2029						
35	Innolux Corporation	Technology and Manufacturing	Well below 2°C by 2026				●	●	Implement Internal Carbon Pricing (ICP) as a carbon risk management
36	JD Components Co., Ltd.	Technology and Manufacturing	1.5°C by 2030						
37	LITE-ON Technology Corp.	Technology and Manufacturing	2°C by 2025, 2023				●	●	Internal carbon tax 1 USD per CO_2e in 2021
38	Long Way Enterprise Co., Ltd.	Technology and Manufacturing	Committed to set SBT target						

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No.	Company Name	Industry	SBTi Status	Carbon Reduction Initiatives					
				RE100	EV100	EP100	Carbon Disclosure-TCFD	Carbon Disclosure - GHG Inventory and Management	Internal Carbon Price
39	Merry Electronics Co., Ltd.	Technology and Manufacturing	–	●			●	●	
40	Nan Ya PCB Co., Ltd.	Technology and Manufacturing	Well below 2°C by 2030				●	●	
41	Nanya Technology Corporation	Technology and Manufacturing	Well below 2°Cby 2030				●	●	
42	New Kinpo Group	Technology and Manufacturing	Committed to set SBT target						
43	Pegatron Corporation	Technology and Manufacturing	Committed to set SBT target					●	
44	Phihong Technology Co., Ltd.	Technology and Manufacturing	–					●	
45	Primax Electronics Ltd.	Technology and Manufacturing	Committed to set SBT target	●			●	●	
46	Qisda Corporation	Technology and Manufacturing	Committed to set SBT target	●				●	
47	Quanta Computer Inc.	Technology and Manufacturing	Committed to set SBT target					●	
48	Shyang Shin Bao Ind. Co., Ltd.	Technology and Manufacturing	Committed to set SBT target						
49	Simplo Technology Co., Ltd.	Technology and Manufacturing	1.5°C by 2030				●	●	

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No.	Company Name	Industry	SBTi Status	Carbon Reduction Initiatives					
				RE100	EV100	EP100	Carbon Disclosure-TCFD	Carbon Disclosure - GHG Inventory and Management	Internal Carbon Price
50	Sunny Wheel Industrial Co., Ltd.	Technology and Manufacturing	Well below 2°C by 2030					●	
51	Sunrex Technology Corp.	Technology and Manufacturing	Committed to set SBT target					●	
52	Taiwan Paiho Limited	Technology and Manufacturing	Committed to set SBT target						
53	Taiwan Semiconductor Manufacturing Company (TSMC)	Technology and Manufacturing	–	●			●	●	
54	TEKTRO Technology Corporation	Technology and Manufacturing	Committed to set SBT target						
55	Topco Scientific Co., Ltd.	Technology and Manufacturing	Committed to set SBT target				●	●	
56	TPV Technology Limited	Technology and Manufacturing	1.5°C by 2030						
57	Transart Graphics Co., Ltd	Technology and Manufacturing	Committed to set SBT target					●	
58	United Microelectronics Corp.	Technology and Manufacturing	Well below 2°C by 2030	●			●	●	Implements internal carbon price
59	Vanguard International Semiconductor Corporation	Technology and Manufacturing	–	●			●	●	

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Note: Majority Taiwan companies with carbon disclosure mechanisms have taken GHG Inventory and Management and applied TCFD, other disclosure initiatives we have surveyed also includes the CDP.

*Last update: July, 2023

Carbon Reduction Initiatives

No.	Company Name	Industry	SBTi Status	RE100	EV100	EP100	Carbon Disclosure-TCFD	Carbon Disclosure - GHG Inventory and Management	Internal Carbon Price
60	VP Components Co., Ltd.	Technology and Manufacturing	1.5°C by 2030					●	
61	Wistron Corporation	Technology and Manufacturing	Committed to set SBT target	●			●	●	
62	Wistron NeWeb Corporation	Technology and Manufacturing	Committed to set SBT target	●			●	●	
63	Wiwynn Corporation	Technology and Manufacturing	Well below 2°C by 2031				●	●	
64	Zyxel Communications Corporation	Technology and Manufacturing	Committed to set SBT target				●	●	
65	3DL Lab. Inc.	Chemical Engineering and Biotechnology	–	●		●			
66	Asia Cement Corporation	Chemical Engineering and Biotechnology	Well below 2°C by 2025				●		216 NTD per ton in 2021-2025
67	BES Engineering Corporation	Chemical Engineering and Biotechnology	Committed to set SBT target						
68	CHIMEI Corporation	Chemical Engineering and Biotechnology	Committed to set SBT target				●	●	

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Note: Majority Taiwan companies with carbon disclosure mechanisms have taken GHG Inventory and Management and applied TCFD, other disclosure initiatives we have surveyed also includes the CDP.

*Last update: July, 2023

Carbon Reduction Initiatives

No.	Company Name	Industry	SBTi Status	RE100	EV100	EP100	Carbon Disclosure-TCFD	Carbon Disclosure - GHG Inventory and Management	Internal Carbon Price
69	CTCI Corporation	Chemical Engineering and Biotechnology	Committed to set SBT target				●	●	
70	Formosa Chemicals And Fibre Corporation	Chemical Engineering and Biotechnology	Well below 2°C by 2027				●	●	
71	Formosa Taffeta Co., Ltd.	Chemical Engineering and Biotechnology	Well below 2°C by 2027				●	●	Internal carbon tax 1,500 NTD per CO_2e in 2022
72	Fu Hsun Fiber Industries Co., Ltd.	Chemical Engineering and Biotechnology	Committed to set SBT target						
73	Grape King Bio Ltd.	Chemical Engineering and Biotechnology	Committed to set SBT target	●			●	●	
74	Hair O'right International Corp.	Chemical Engineering and Biotechnology	–	●			●	●	
75	Jola International Co., Ltd.	Chemical Engineering and Biotechnology	–	●					
76	King Yuan Fu Packaging Co., Ltd.	Chemical Engineering and Biotechnology	–	●				●	

* ● : Marked cells are initiatives the companies have participated in.

Note: Majority Taiwan companies with carbon disclosure mechanisms have taken GHG Inventory and Management and applied TCFD, other disclosure initiatives we have surveyed also includes the CDP.

*Last update: July, 2023

Carbon Reduction Initiatives

No.	Company Name	Industry	SBTi Status	RE100	EV100	EP100	Carbon Disclosure-TCFD	Carbon Disclosure - GHG Inventory and Management	Internal Carbon Price
77	Kingwhale Corporation	Chemical Engineering and Biotechnology	–	●					
78	Nan Ya Plastics Corporation	Chemical Engineering and Biotechnology	Well below 2°C by 2027				●		
79	Promax Textile Co.,Ltd	Chemical Engineering and Biotechnology	Committed to set SBT target						
80	Taiwan Cement Corporation	Chemical Engineering and Biotechnology	Well below 2°C by 2025			●	●	●	Implements internal carbon price (Production equipment at plants 100% adopt)
81	TCI Co., Ltd.	Chemical Engineering and Biotechnology	1.5°C by 2030	●		●	●	●	
82	Chunghwa Telecom Co. Ltd.	Telecommunications	1.5°C by 2030	●			●	●	Internal carbon fee 1,600 NTD per ton in 2022
83	Far EasTone Telecommunications Co., Ltd.	Telecommunications	1.5°C by 2030	●			●	●	
84	Taiwan Mobile Co., Ltd	Telecommunications	Well below 2°C by 2030	●			●	●	

* ● : Marked cells are initiatives the companies have participated in.

Note: Majority Taiwan companies with carbon disclosure mechanisms have taken GHG Inventory and Management and applied TCFD, other disclosure initiatives we have surveyed also includes the CDP.

AcBel Polytech Inc.

Company Profile (Honors)

- AcBel has manufacturing bases in Tamsui, Taiwan, Donguan and Wuhan, Mainland China, and the Philippines, as well as service locations in North America, Europe, and Asia, including Mainland China and Japan.
- In recent years, AcBel has been actively improving its product design to boost the power conversion efficiency of its power supply products to help customers' end systems save energy and reduce carbon emissions, while venturing into new areas such as electric vehicles, energy and power communications, with a view to developing total solutions based on the core technology of power management.

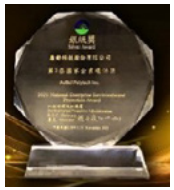
Type	Limited by shares
Founded	1981
Industry	Electronic components
Products/Services	Power supplies, power supply systems

Corporate Sustainability	Objectives
SBTi	• Passed SBTi compliance review in August 2021, with specific SBT targets expected to be submitted and approved within the next 2 years. Set 1.5°C-aligned targets. • Targets 35% reduction in carbon emissions by 2030, using 2014 as the base year. • Achieved a 2% decrease in carbon emissions per year from 2014 to 2020 compared to the previous year.
RE100	• Not a member of the RE100 initiative as of July 2023. • AcBel aims to lower GHG emissions and accelerate the move towards a clean economy by building solar power plants and engaging in renewable energy certificate (REC) trading. • At the end of 2021, AcBel developed five flood detention pools and built four solar power plants on an area of 130 hectares at an estimated cost of NT$3 billion, with a total capacity of 62 MWp, making it currently the largest floating PV investor in flood detention pools in Taiwan.

Corporate Sustainability	Objectives
EV100/Green Transportation	• Not a member of the EV100 initiative as of July 2023. • AcBel's expertise in the field of power electronics lies in energy storage technology, with a focus on power supply, solar power plants, electric vehicles and vehicle electrification.
Carbon Disclosure Mechanism	• TCFD: Applied TCFD in 2020 and performed external third-party verification of TCFD maturity, resulting in the highest level (Level 5: Excellence). • GHG inventory & management: ISO 14064 inventories were completed in Tamsui, Dongguan and Wuhan in 2020, and the Philippines plant was added to the inventory exercise in 2021, with Scope 3 added to the inventory of each plant.
Carbon Pricing	No information publicly available.

Green Mark Acquisition

3rd National Enterprise Environmental Protection Award Silver Class



14th Taiwan Corporate Sustainability Awards (TCSA)
"Sustainability Performance Category - Taiwan Top 50"

TCSA 台灣企業永續獎

Energy Star Most Efficient Products

ENERGY STAR

80 PLUS Certification

80 PLUS

Green Manufacturing

Responsible Sourcing

Green Sourcing

- In line with international environmental regulations and customer requirements, AcBel has established the "Environmental Management Substances Regulation" and IECQ QC080000 Hazardous Substances Management System as criteria for banned or restricted substances in the procurement of raw materials.
- AcBel proactively takes stock of raw materials that may be banned in the future and, if necessary, draws up replacement material plans to maintain the company's policy of sourcing green materials, while special component materials are effectively managed through an information management system to ensure their quality.
- AcBel, by considering the environment in the production or services, has formed strategic alliances with local suppliers to ensure timely and stable supply of raw materials and to alleviate the environmental impact of production along the value chain. 100% of green purchases in 2020 were made in compliance with the RoHS and REACH directives, and were lead-free and halogen-free.

Green Manufacturing

Diversified Programs for Carbon Reduction

Energy Efficiency & Renewable Energy

- AcBel has recently been developing its solar power plants, with a target of 103MW of capacity by the end of 2022 and 500MW by 2024, making the sale of green power a key part of its business.
- AcBel has recently been developing its initial business in energy storage and auxiliary electricity services and biomass energy.
- AcBel is also developing its lighting, power and air conditioning facilities and equipment to achieve energy sustainability by replacing, adding and adjusting equipment and promoting energy conservation awareness.

Water Resource Treatment

- In 2021, AcBel obtained the ISO 14046 organizational water footprint inventory certificate for each of its production sites.
- AcBel uses WRI's (World Resources Institute) Aqueduct tool to conduct a water risk assessment of the business locations of the top 14 suppliers for raw material purchases.

Waste Disposal

- In 2021, AcBel's Dongguan plant received the highest platinum and certification for UL 2799 Zero Waste to Landfill certification, aiming for an overall waste diversion rate of 95-99%, which will be extended to other production sites in the future to enhance the effectiveness of waste reduction.

Transport Packaging

Packaging Material Reduction

- Its packaging materials are made from recyclable materials, including paper and plastic, whenever possible. It also complies with the EU Packaging and Packaging Waste Directive (Directive 94/62/EC), which limits the content of heavy metals, such as lead, cadmium, mercury and hexavalent chromium to no more than 100ppm in the packaging, and bans the use of PVC in its plastic products.
- It proactively works with suppliers to convert parts supply cartons into finished product shipping cartons, saving over 50% in packaging material usage, and partners with customers and suppliers to introduce marine recycled materials into some of its plastic parts.
- It reduces inventory and boosts transport efficiency through standardization of carton sizes and the flexibility of internal dividers.
- Its products are shipped together and are transported by low-pollution, energy-efficient means. It has also introduced the ISO 14064 GHG inventory to enhance carbon emissions management.

Design for Use

Increasing Product Energy Efficiency

- AcBel aims to achieve higher performance, smaller size and use eco-friendly materials, and its current power supply products are all designed in compliance with Energy Star and 80PLUS performance standards.
- AcBel is committed to providing products that improve and promote energy efficiency and meeting the requirements of international certification standards or specifications for computer power supplies, wall chargers, etc.

Acer Inc.

Company Profile (Honors)

- With a global presence in Mainland China, India, Australia, the US and Europe, Acer is a brand leader that is working with suppliers to build a resilient supply chain and evolve into a new smart low carbon solution provider.
- Acer received its first Silver Class award in the S&P Global Sustainability Yearbook 2021 rating and was named to the Dow Jones Sustainability Indices (DJSI) Emerging Markets Index for the seventh consecutive year and earned AA status as a constituent of the MSCI ESG Sustainability Index.

Type	Public
Founded	1976
Industry	Consumer electronics, computer hardware
Products/Services	VR devices, cell phones, tablets, laptops, desktop computers

Corporate Sustainability	Objectives
SBTi	• Committed to set SBT target to achieve 80% carbon reduction in Scope 1 and Scope 2 emissions by 2050, based on the 2009 baseline. • The total emissions from Acer Scopes 1 and 2 in 2020 stood at 12,000 tonnes, down 62.05% from the 2009 base year and 11.37% from 2019.
RE100	• In 2021, it announced that it had joined RE100, committing to a target of 100% renewable energy use by 2035. • Acer aims to achieve the RE100 pledge by purchasing renewable energy certificates and installing in-house solar power plants and wind turbines.

Corporate Sustainability	Objectives
EV100/Green Transportation	• Not a member of the EV100 initiative as of July 2023. • It aims to decrease the size and weight of product packaging to boost efficiency and reduce energy consumption during transportation, further minimizing the carbon emissions generated in transit.
Carbon Disclosure Mechanism	• TCFD: Acer in 2020 established a climate change risk management process, disclosing information on governance, strategy, risk management, indicators and targets. • GHG inventory & management: Since 2011, Acer has been conducting a GHG inventory project in line with the GHG Protocol. In 2020, it has updated its procedures with reference to the 2018 edition of the ISO 14064-1 standard and commissions third-party verification bodies accredited by the Taiwan EPA to carry out global external verification of the more significant emission items and emissions identified by this new standard.
Carbon Pricing	No information publicly available.

Green Mark Acquisition

S&P Global
Silver Class

MSCI Ratings

Dow Jones
Sustainability Indices

Ecovadis CSR Rating
Gold

Green Manufacturing

Responsible Sourcing

Sustainably Sourcing Recycled Plastic Materials and Managing Raw Material Chemicals with Care

- Actively uses post-consumer recycled (PCR) plastics in products and incentivizes plastic manufacturers and their upstream recyclers to comply with international standards for quality, environment, labor safety and health, responsible recycling (R2) and to obtain international cross-border export permits and local government-approved recycler status.
- Through green procurement and communication, it works with suppliers to uphold international environmental standards and establish a green supply chain.

Green Manufacturing

Diversified Programs for Carbon Reduction

The Group has set a sustainability target by 2025:

- Use 20-30% PCR plastics for core products (laptops, desktops, monitors)
- Acer Group is set to achieve 60% renewable energy use and RE100 by 2035
- Reduce average PC energy consumption by 45% (2016-2025)
- 80% of key suppliers commit to RE100 or set a Science-Based Target (SBT).

Energy Efficiency & Renewable Energy

- Systematically collects data on electricity consumption and encourages office areas to carry out energy-saving measures such as optimizing electricity consumption equipment and strengthening electricity usage management, as well as using green electricity and producing green electricity with a view to reducing office electricity consumption each year.
- Optimizes the energy efficiency of its business locations, adopts green power, installs renewable energy generation facilities at appropriate sites, and takes into account options such as renewable energy certificates (RECs) or carbon credits.

Water Resource Treatment

- Acer encourages its business locations to reuse water, improve water facilities and strengthen water management.

Waste Disposal

- By promoting recycling and business waste recycling management, it aims to reduce waste in office areas.

Transport Packaging

Working with Suppliers to Adopt Green Packaging Materials and Transport Optimization

- "The Acer Group Sustainable Paper and Packaging Policy" emphasizes the need to obtain raw materials legally, to use environmentally friendly paper products wherever possible in its operations, including the use of recycled content and materials with recyclable and renewable properties, to mitigate environmental impacts from a life-cycle perspective and to minimize the use of virgin pulp in its products.
- Cooperates closely with logistics partners to further optimize land transport operations, with 311.51 tonnes of carbon emissions reduced in 2020 when containers are transported by sharing trucks in some parts of Mainland China.

Design for Use

Product Life Cycle & Design

- It is committed to lessening the impact of its products on the environment during the product lifecycle by incorporating the concept of circular economy and actively using recycled materials to create sustainable value. It offers quality products that are low in toxicity, low in pollution, energy efficient, resource saving and easy to recycle.
- Through product design, the company aims to reduce the average energy consumption of PCs by 45% between 2016 and 2025 by making products more efficient and longer-lasting, or by supporting the reuse of resources in the manufacture of products.

End Treatment

Complete Electronics Recycling Channels

- In Europe, it has joined the local recycling system to provide consumers with a guaranteed recycling channel. In terms of battery recycling, hazardous substances such as mercury, cadmium or lead are banned from the product design stage. Based on the design of easy dismantling, and given that waste batteries should be easily identified and stripped, the location and type of waste batteries are marked in the product teardown guide so that they can be safely removed and recycled. Packaging materials are designed to reduce the amount of resources used and to limit the use of heavy metals, and to indicate the recycling pattern and material.
- It runs an in-house recycling program for electronics in North America and promotes the Acer Tech Trade-up Project.
- It works with professional recycling operators in Taiwan to re-refine lithium-ion batteries and make them into raw materials for new products, while the rest is handed over to reputable environmental technology providers in Taiwan for final handling.

Acrox Technology Co., Ltd.

Company Profile (Honors)

- Initially a manufacturer of computer peripherals, the company has recently developed its own brand name, with sales and service in OEM projects and channel marketing in the US, Europe and Asia Pacific. We have tapped into the global market and are currently promoting our own brand in over 35 countries and are actively expanding the company's presence.
- In line with our commitment to our customers and overall quality requirements and our responsibility as a global citizen, we take practical action to "comply with environmental laws and regulations, use resources properly and reduce industrial waste continuously."
- Certified by IEC Quality Assessment System for Electronic Components (IECQ) and ISO 9001 Quality Management System.

Type	Limited by shares
Founded	2000
Industry	Computer peripherals manufacturing
Products/Services	Mice, keyboards, headsets and multifunctional adapters

Corporate Sustainability	Objectives
SBTi	• Joined SBTi in 2022 and set a Business Ambition for 1.5°C by devising a corporate carbon reduction plan for the 1.5°C global warming climate change response. Acrox also set committed to set SBT target.

AD-II Engineering Inc. (microSHIFT)

Company Profile (Honors)

- microSHIFT is a manufacturer specializing in in-house design, fabrication, marketing, and sales of bicycle derailleur system. With about 500 employees, the company is currently the third largest manufacturer of gearboxes in the global bicycle industry.

Type	Limited by shares
Founded	1999
Industry	Bicycle and parts manufacturing
Products/Services	Bicycle and shifter, front derailleur, rear derailleur, speed cassette, etc.

Corporate Sustainability	Objectives
SBTi	• Joined SBTi in 2022 and submitted a carbon reduction commitment to keep warming well below 1.5°C by 2030. • Long-term targets (3 years+): Reduce GHG emissions in Scopes 1 and 2 by 38% by 2030 from the baseline year of 2021, and measure and reduce emissions in Scope 3.

Advantech Co., Ltd.

Company Profile (Honors)

- Advantech is a global leader in the IoT intelligent systems and embedded platforms industry, and has adopted "Enabler of the Smart Planet" as its corporate brand vision.
- Advantech's core competencies have been identified and defined, linked to its CSR, with "ESG" overlaying the existing CSR scope, and its unique AIoT core competencies echoing the United Nations' SDGs.
- In 2021, Advantech was honored with the 14th TCSA Gold Award for Sustainability Report and the Award for Overall Excellence in Sustainability Performance.

Type	Limited by shares
Founded	1983
Industry	Computer & peripherals
Products/Services	Embedded computers and industrial automation solutions

Corporate Sustainability	Objectives
SBTi	• Passed SBT target validation in 2021, with climate target of well below 2°C by 2030. • Aims to reduce Scope 1 and 2 GHG emissions intensity by 60% and Scope 3 GHG emissions from the sale of products by 49% by 2030, and to achieve carbon neutrality in Advantech Taiwan by 2032.
RE100	• Not a member of the RE100 initiative as of July 2023. • Pledges to achieve ESG's green power commitment by using 50% green power by 2026 and 100% by 2032 for Advantech Taiwan. • Develops solar power plant management solutions, provides a unified monitoring and management system, equipment intelligence technology and a reliable business IoT data framework to facilitate renewable energy system management.

Corporate Sustainability	Objectives
EV100	• Not a member of the EV100 initiative as of July 2023. • Advantech has developed an intelligent bus solution that integrates a fleet management cloud platform and related equipment through AIoV (AI + Internet of Vehicle) technology to build five major functions, including fleet management, vehicle maintenance station management, passenger information management and reporting system, to promote green transportation technology in Taiwan.
Carbon Disclosure Mechanism	• Joined CDP in 2011 and discloses its carbon reduction plans and achievements annually. • TCFD: The first TCFD Climate Related Financial Disclosure Report is scheduled to be published in 2022. • GHG inventory & management: In addition to the standards of the ISO 14064-1 and GHG inventory protocols, the Advantech Taiwan site was subject to a third-party on-site verification by SGS from 2019 onwards; the Kunshan site conducted its first ISO 14064-1 GHG emissions inventory in 2015.
Carbon Pricing	No information publicly available.

Green Mark Acquisition

Energy Star

Smart Factory Wireless E-paper and Micro Efficient Edge Intelligent System won the 30th Taiwan Excellence Award - Silver Award

14th TCSA

Green Manufacturing

Responsible Sourcing

Responsible Sourcing & Supplier Management

- Follows the Responsible Business Alliance (RBA) Code of Conduct and carries out a policy of no use of conflict minerals.
- Suppliers are required to comply and commit to ensuring that the Advantech supply chain respects human rights and is not involved in conflict activities. By 2020, 100% of Advantech's key suppliers signed up to the Conflict Free Minerals Declaration.
- Introduced the IECQ QC 080000 system and promoted the Green Product Management System (GPM) to manage incoming materials according to material risk levels.
- Since 2010, it has established a Green Supply Chain management system, using the Green Product Information Management System as a common platform for environmental information in the supply chain, and sending the latest international environmental regulations to suppliers as a reference for regulatory compliance and the construction of material supply systems. Suppliers are required to pledge and guarantee that their products do not contain hazardous substances regulated by Advantech, and to provide toxicity and prohibition information (MSDS/MCD) on relevant chemicals.

Green Manufacturing

Energy Management & Green Energy Use

Energy Management & Solar Energy

- It is devoted to the development of BEMS (Building Energy Management System), which provides energy saving management from management and operation and maintenance through energy consumption information acquisition, data uploading to the cloud, AI analysis, information presentation and real-time alarming, as well as adjustment and scheduling, equipment cleaning and maintenance, and high energy-consuming equipment replacement.

- Solar panels were installed at the Linkou campus, which generated an average of 46,682 kWh of electricity per month in 2020 to be connected with Taipower; solar panels are also expected to be installed at the new building in Linkou Phase III, which is expected to generate 8,000 kWh of electricity per month. In 2021, to achieve the progress of green power usage in 2021, it established a special purpose vehicle (SPV) with RFD Micro Electricity Co., Ltd. to hold approx. 10MW of solar power plants in Taiwan.

Water Resource Treatment

- Taiwan: Water saving programs such as rainwater recycling for domestic use, intelligent watering and monitoring and control of cooling and chilled water systems for intelligent air conditioning, reducing overall water consumption.
- Kunshan Plant: It has promoted the energy saving control project by installing water meters for water metering management in the production workshops of each plant, and recovering water resources through a water recycling system, saving 53% of water annually.

Waste Disposal

- Industrial waste is handled by qualified clearance operators.
- The waste clearance contractor is inspected annually and if there is any breach of contract or violation of government regulations, the contractor will be dealt with or advised or replaced accordingly.

Transport Packaging

Reuse of Packaging Materials

- Reuse of packaging materials, replacing the existing end-of-pipe treatment model through recycling. The 3Rs (Reuse, Recycle, Reduce) principle aims to reduce and prevent the generation of waste and pollution.
- The packaging is simple and integrally shaped, and the recycling mark is printed directly on the packaging to carry out the green design and packaging policy.

Design for Use

Green Product Design

- In the second half of 2020, it developed a green product innovation and design project, introduced the green product innovation and design process in stages, and set standards in four areas: green materials, green packaging materials, product recycling and product energy saving.
- Based on international environmental regulations or international assessment tools (e.g. EPEAT) and the experience of serving brand-name customers, it develops green design standards to improve energy efficiency, ecological design and reduce environmental toxicity hazards.
- It takes energy saving into account when designing its products and has developed automatic power-off mode and automatic low power mode, using high efficiency power supplies and low energy consumption components.

Arcadyan Technology Corporation

Company Profile (Honors)

- Arcadyan, a subsidiary of Compal Group, is the first Taiwan-based provider of specialized, intelligent network terminals integrating broadband, multimedia, wireless, and Internet communication protocols. Headquartered in Hsinchu, Taiwan, Arcadyan has R&D centers in Taiwan and China to cope with the rapid technological innovations, as well as sales locations in Europe and the Americas.
- Arcadyan has won the 2023 SEAL Corporate Sustainability Award for excellence in green product design, and has also been honored with a Gold in the EcoVadis Sustainability Rating for 2023.

Type	Public
Founded	2003
Industry	Communication networks
Products/Services	5G CPE / Small Cell FTTx / DOCSIS / xDSL Wi-Fi CPE / Wi-Fi Extender STB / Voice Assistant 77GHz/79GHz Automotive Radar ADAS (Advanced Driver Assistance Systems)

Corporate Sustainability	Objectives
SBTi	• Joined in 2022, set carbon reduction targets, declared that with 2022 as the baseline year, the organization's GHG (Scope 1+2) will reach net zero by 2040, and set the short-term target of 5.3% reduction per year, with an absolute reduction of 42% by 2030. Other indirect GHG emissions (Scope 3) aim to reach net zero by 2050, with a short-term target of a 51.6% reduction in emission intensity by 2030.
RE100	• Not yet joined RE100 as of July 2023. • Introduced ISO 50001 Energy Management System in 2022 and started using renewable energy by installing a solar power system at its Vietnam production center.

Corporate Sustainability	Objectives
EV100	Not yet joined EV100 as of July 2023.
Carbon Disclosure Mechanism	• TCFD: According to the types of climate-related risks recommended by TCFD, Arcadyan regularly performs risk assessment procedures and manages related risks, and discusses potential opportunities arising from risks with relevant departments. • CDP: Since 2009, Arcadyan has been actively involved in the disclosure of carbon emissions in Scopes 1 and 2, and has been awarded the B Management Level in the CDP's corporate evaluation. • GHG inventory & management: Obtains ISO14064-1 third-party external verification of carbon emission inventory data for key locations (Hsinchu headquarters, China and Vietnam production centers) annually from 2021 onwards.
Carbon Pricing	No information publicly available.

Green Mark Acquisition

EcoVadis Gold Medal for CSR Rating

EcoVadis 全球企業社會責任評級金牌

Silver Medal in the 4th National Enterprise Environmental Protection Award

第四屆國家企業環保獎銀級獎

Swisscom Sustainable Supply Chain Best Practice Award

瑞士電信永續供應鏈最佳實踐獎

Others: Organic Life Promotion Association "Green Enterprise Award"; ISO 50001 Energy Management System Certification

Green Manufacturing

Responsible Sourcing

Sustainable Supply Chain

- Incorporated the green product directives required by customers into suppliers' incoming material inspection procedures and auditing to promote source management.
- Promotes CSR programs, participates in customers' Sustainable Development Platform (SDP), counsels suppliers to subscribe to and abide by the Responsible Business Alliance (RBA) and the Joint Audit Co-operation (JAC) guidelines, and raises the awareness of sustainability among suppliers.
- Revised the complete Supplier Sustainability Survey Guidelines at the end of 2020, including new supplier appraisal, supplier management, supplier auditing and supplier counseling, to guide suppliers to become part of the green supply chain and to mitigate supply chain risks.
- Organizes sustainable procurement courses and incorporates sustainable procurement objectives into the performance appraisal of purchasing staff.
- Developed the Arcadyan Sustainable Procurement Policy, which requires suppliers to subscribe to a new version of the Supplier CSR Commitment.
- Continuously scouts local suppliers through the procurement management process.

Green Process

Multi-programs for carbon reduction

Energy & Carbon Emissions Management

- Priority is given to the purchase of green products that fit the eco-friendly and energy-saving labels, and employees are encouraged to purchase green products by educating them about green consumption.
- Lowering the replacement rate of computers by retrofitting and refurbishing and reconditioning of IT equipment.

- Installed waste heat recovery devices in the Vietnam production center.
- The production center in Vietnam is equipped with a solar power system, while the Taiwan headquarters is actively searching for suitable renewable energy providers to sign a green power procurement agreement.
- Embedded a smart building energy management system at Hsinchu headquarters.

Water Resource Management

- The China production center is fitted with a domestic wastewater recycling and treatment system, which recycles and filters water for hand washing and domestic use, and then uses it for toilet flushing, thus increasing the water recycling rate in the plant.
- The new plant in Vietnam is planning to build a rainwater reclamation system, whereby rainwater is filtered and processed to be used for toilet flushing, watering plants, etc. to cut the demand for daily water supply.

Waste Management

- Regarding waste removal and disposal, a conforming waste storage zone is set up for centralized sorting, waste reduction, recycling, incineration and other disposal options.
- Provides recycling bins in the factory to encourage separation and recycling, and initiated a waste reduction program.
- Waste Reduction: No disposable tableware is used in the head office and factory cafeteria. Developed an online sign-off system to cut down the use of paper, etc.
- In the recycling process of product returns, the company uses recycled and reused packaging materials and accessories to extend the life cycle of products and accessories and to maximize recyclability.

Transport Packaging

- Packaging design is optimized for each product during the R&D process, and the percentage of cubes used is increased through stacking to raise the volume ratio of the product for transport.
- Packaging is made from recycled paper or Forest Stewardship Council (FSC) cardboard with printing using vegetable oil-based inks to minimize the environmental impact.
- Biodegradable materials are used in the inner structure, consisting of industrial starch, vegetable fibers and water-based paper foam.

Green Design

- Component Selection: Selected from green and sustainable suppliers, power supply compliant with the EU voluntary Code of Conduct, selecting ICs with energy-saving design control functions.
- Product Design: Reduces PCB size and thickness as much as possible to achieve miniaturization and light weight; Designs for easy disassembly to make the product fit easily into the maintenance and retrofitting cycle; Designs to extend the product lifecycle.
- Manufacturing Process Optimization: Simplifies the manufacturing process by introducing automated equipment to increase product yields and reduce waste, maximizes energy efficiency at all stages of the manufacturing process, and mitigates environmental impacts.
- Customer Use: Developing products with low energy consumption to cut down the consumption of energy resources (electricity) in the process of use by end-customers.
- Repair and Retrofitting: Restoring products to their original functionality by troubleshooting or replacing parts and components; extending the life cycle of products by replacing parts.
- Recycling: Processing end-of-life materials or products to make them into components or recycled materials for other products.

Ardentec Corporation

Company Profile (Honors)

- As a semiconductor testing company, Ardentec is one of the top three wafer testing companies in Taiwan, providing services for wafers of memory ICs, wafers and finished products of digital signal ICs and mixed signal ICs, as well as wafer-type burn-in testing.
- Headquartered in Hsinchu Industrial Park, Hukou Township, Hsinchu County, the company has 4 factories: Kaiyuan, Dingxing, Gaosheng, and Baoqing, and also has subsidiaries in Singapore, South Korea, and Nanjing, China.
- Ardentec has received numerous green product and other certifications including ISO 9001, ISO 14001, ISO 45001, ISO 14067, QC08000, ISO 22301, ISO 50001, ISO27001, ISO15408, IATF 16949, IDO 26262, PSCR, ISO 26000.

Type	Public
Founded	1999
Industry	Semiconductor testing
Products/Services	Development of test engineering and test production for various types of ICs.

Corporate Sustainability	Objectives
RE100	• As the first packaging and testing company in Taiwan to join the initiative, Ardentec has pledged to use 100% renewable energy across all of the Group's locations, including those in Taiwan, Singapore, South Korea and Nanjing, China, by 2050, and has responded to the Paris Agreement to limit the global warming to 1.5°C. • Short-, medium-, and long-term goals: Commit to 100% renewable electricity use and carbon neutrality by 2050 at all global locations, with milestones of 30% by 2030 and 60% by 2040.

Corporate Sustainability	Objectives
Carbon Disclosure Mechanism	• TCFD: Set the following targets with the TCFD framework: average electricity saving of no less than 1% from 2015-2024, 10% renewable energy use by 2025, and about 10% reduction in GHG Scope 1 and 2 by 2025 compared to 2020. • GHG inventory & management: Products have passed ISO 14067:2018 Product Carbon Footprint Verification.

Green Mark Acquisition

- ISO 9001 Quality Management System
- ISO 14001 Environmental Management System
- ISO 45001: 2018 Occupational Safety & Health Management Standard
- ISO 14067: 2018 Carbon Footprint
- ISO 22301 Business Continuity Management System

IECQ QC 08000 Hazardous Substance Process Management System

ISO 50001 Energy Management System

Green Manufacturing

Green Process

Energy Management

- Ardentec has completed the installation of 499kW of solar PV facilities at its headquarters in Taiwan in 2022, and from 2023 onwards, the headquarters and its subsidiaries are to install 2,128kW of solar PV facilities, which is expected to reduce carbon emissions by 1,415t CO_2e annually upon completion.
- Lighting and Air Conditioning Reduction: Zonal and time-phased control and management of air conditioning and lighting.
- Information Management System Energy Saving: Energy saving measures are uniformly set up on information management carriers.
- Ardentec executed 37 energy-saving projects in 2021, such as CDA heat recovery, vacuum machine and ice machine replacement, etc., saving electricity and reducing 3,017 metric tonnes of CO_2 -equivalent GHG emissions.

Water Resource Management (Water Pollution Control Management)

- Ardentec adopts the WRI Aqueduct Water Risk Atlas, a risk assessment tool, to identify the water supply risk level in the regions where its headquarters and subsidiaries are located, and to understand the company's overall water use situation and the related potential impacts and risks through the data on water sources and total water withdrawals, in order to step up its efforts to conserve water.
- Water resources are being recycled to the maximum extent by upgrading water conservation facilities, recovering air-conditioning condensate and process RO wastewater, and supplying air-conditioning cooling make-up water, with the aim of "Reduce, Recycle, Reuse."

- The departments have monitoring facilities to keep watch on the wastewater before discharge, and observe the standards of wastewater/sewage discharge from the sewers in the Hsinchu Industrial Park to ensure that the wastewater/sewage meets the discharge standards regarding the pH, COD, and SS from the sewers in the Hsinchu Industrial Park.

Waste Management

- Waste is centrally stored and managed, and the amount of waste generated is kept track of. Waste is optimally sorted, and waste that cannot be recycled is entrusted to qualified disposal companies to handle according to the optimal treatment technology for the characteristics of the waste.
- Promoting the recycling and reuse of packaging materials with upstream and downstream partners to achieve waste reduction.

Toxic Chemicals Management

- Formulated the "Hazardous Substance Free Policy," performs internal audits on a regular basis, and reviews the "Hazardous Substance Free Goal" every six months.
- All 4 factories have passed the IECQ QC080000 Hazardous Substance Process Management System Certification, and all operational activities are in compliance with EU RoHS, REACH, and other international environmental regulations.

ASE Technology Holding Co., Ltd.

日月光投資控股股份有限公司

Company Profile (Honors)

- Headquartered in Taiwan, ASE has a global presence in Taiwan, Mainland China, South Korea, Japan, Malaysia, Singapore, Mexico, the US, Poland and Europe. The company's strategy for sustainable development is based on the four pillars of "low-carbon mission, recycling, social inclusion and value creation," through which it develops innovative models such as low-carbon transformation and impact, smart factories and automation, dynamic incentive systems and supply chain management.
- The company was named the leader in the semiconductor and semiconductor equipment industry by the Dow Jones Sustainability Indices for five consecutive years from 2016 to 2020.

Type	Public
Founded	1984
Industry	Semiconductor
Products/Services	Manufacture, assembly, processing, testing and export of all types of integrated circuits

Corporate Sustainability	Objectives
SBTi	• ASE has adopted the SBTi target and aims to achieve net zero emissions by 2050, with climate target of well below 2°C by 2030. • Scope 1 and 2 are to be reduced by 35% by 2030 based on the base year 2016. • Scope 3 is to achieve an absolute 15% reduction by 2030, with a 2020 baseline, and to move towards net-zero emissions by 2030 for offices and 2050 for manufacturing sites.

Corporate Sustainability	Objectives
RE100	• Not a member of the RE100 initiative as of July 2023. • The company is building a sustainable supply chain network for green manufacturing and is committed to the 2030 UN Sustainable Development Goals (SDGs) to achieve net zero emissions by 2050.
EV100/Green Transportation	Not a member of the EV100 initiative as of July 2023.
Carbon Disclosure Mechanism	• TCFD: ASE has incorporated a TCFD framework into its enterprise risk management system, analyzing the content of the indicators within the TCFD framework and strengthening its short, mid and long-term responses. • GHG inventory & management: 100% of ASE's global production sites are ISO 14064-1 certified.
Carbon Pricing	No information publicly available.

Green Mark Acquisition

US LEED

S&P Global Sustainability Award Gold Class for six consecutive years from 2017-2022

Multi-awarded Asia Responsible Enterprise Awards (AREA)

Green Manufacturing

Responsible Sourcing

Local Sustainable Sourcing

- In 2020, approx. 48% of ASE's supplier raw material purchases were sourced locally.
- ASE requires and encourages existing and new suppliers to obtain relevant international certification standards such as ISO 9001, IATF 16949, ISO 14001, ISO 45001:2018, ISO 14064-1, etc.
- Chooses environmentally and ecologically compatible and low carbon emission materials, e.g. copper wire instead of gold wire.
- Uses environmentally friendly alternative materials, e.g. boron-free developer, non-reproductive toxicity photoresist stripper, halogen-free materials.
- Develops recycled materials or extends the life of materials.

Green Manufacturing

Diversified Programs for Carbon Reduction

Energy Efficiency & Renewable Energy

- ASE's Kaohsiung, Zhongli and Suzhou plants have imported the ISO50001 international standard. In addition, ASE's Kaohsiung plant has established an energy management information platform to monitor real-time energy consumption.
- ASE's 11 plants worldwide are using 100% renewable electricity or purchasing renewable energy certificates for a total of 706,105 MWh, representing 18% of total electricity consumption, while running 300 energy saving and carbon reduction projects, resulting in an overall carbon reduction of 585,744 tonnes.
- Since 2018, it has devoted itself to the study of smart grids, evaluating the deployment patterns of electricity and energy storage systems, establishing electricity decision models, and introducing optimal electricity supply and simulation at plant locations in stages to provide an optimal model of electricity usage.

- Since 2012, it has been renovating existing plants and constructing new manufacturing plants and office buildings in conformity with green building standards including US LEED (Leadership in Energy and Environmental Design) and Taiwan EEWH (Ecology, Energy Saving, Waste Reduction, and Health). In 2019, its K24 plant is the world's first packaging and testing plant to be certified as a low carbon green building.

Water Resource Treatment

- ASE's Kaohsiung and Zhongli premises have a "water reclamation plant," where treated wastewater that meets local effluent standards is recycled to the water reclamation plant and re-treated to pure water level, which is supplied to the premises for recycling with approx. 70% reduction in wastewater.
- A total of 22 water saving projects are launched at all sites to increase the process water recovery rate by 6% compared to 2019.

Carbon Emissions

- The replacement of the special process gas, carbon tetrafluoride, with oxygen and argon promotes low-carbon processes to reduce Scope I carbon emissions.

Waste Disposal

- A locally qualified operator is contracted to recycle and treat 100% of its waste in the territory, with the recovery rate for general and hazardous waste reaching 82% in 2020, up 3.8% from the previous year.
- In the packaging and wafer bumping process, it has developed technologies to significantly reduce solid waste, toxic chemicals, GHG emissions, etc.

Transport Packaging

Packaging Material Reduction

- Uses low-impact, decomposable and recyclable packaging materials and develops biomass composite material packaging.
- Reduces product packaging and materials.
- Optimizes distribution routes and increases transport loads, and uses green vehicles.

Design for Use

Increasing Product Energy Efficiency

- Incorporates product lifecycle, recyclability and eco-efficiency into the design phase. Uses low-power consumption, high-end packaging and sealing technologies, simplifies processes to use less material, and boosts product efficiency with component recycling designs.
- Develops power saving products over previous generations, e.g. QFN products for smart TV applications with 25% higher power efficiency and lower power consumption than previous generations.
- Upgrades technology and enhances product functionality to reduce material input, e.g. ICS wireless products designed to shrink in size and cut material usage by 30%.

ASUSTek Computer Inc.

Company Profile (Honors)

- ASUS is a globally renowned multinational technology company, known for providing a full range of technology solutions. With 2020 as its base year, ASUS has launched its "Sustainability 2025 Goals," focusing on four areas: "Climate Action," "Circular Economy," "Responsible Manufacturing" and "Value Creation."
- As of 2021, ASUS has been listed as a constituent of the FTSE4Good Taiwan Sustainability Index for five consecutive years and the FTSE Emerging Markets Sustainable Yield Index for six consecutive years.

Type	Public
Founded	1989
Industry	Electronics, computer hardware & IoT devices
Products/Services	Motherboards, graphics cards, sound cards, computers, smartphones, wearables, monitors, CD-ROMs, networking products, e-sports products

Corporate Sustainability	Objectives
SBTi	• Join SBTi in October 2022, and committed to set SBT target. • Aims for a 50% reduction in carbon emissions from global business locations by 2030 and a 30% reduction in emissions intensity from key suppliers by 2025.
RE100	• Joined the RE100 initiative in 2021. • Pledges to achieve 100% renewable energy use in Taiwan by 2030 and world-wide by 2035.

Corporate Sustainability	Objectives
EV100	• Not a member of the EV100 initiative in July 2023. • Invests in three-wheeled logistics EV start-up Gaius Automotive Inc, and in 2021 joined hands with Fortune Electric Value Co to build the first DC fast charging facility in Taipei Taiwan with dual charging interfaces such as CCS1 and CHAdeMO, and to introduce its edge computing solution to create charging stations with AI license plate recognition.
Carbon Disclosure Mechanism	• TCFD: Endorses the TCFD and discloses four key messages on governance, strategy, risk management, metrics and targets for climate change responses based on its Financial Disclosure Proposal framework. • Climate risk analysis through scenario modelling: Conducts financial exposure simulations using the INDC and 2°C scenarios to identify the risks of carbon tax, renewable energy and energy efficiency regulations in the supply chain, operations and products, and continues to work with external parties to explore the impact of extreme climate events. • GHG inventory & management: Published GHG inventory information and organizational inventory validation in accordance with ISO 14064 in 2009.
Carbon Pricing	No information publicly available.

Green Mark Acquisition

Taiwan Green and Energy Label | TCO Certification | EPEAT Environmental Label | Mainland China Environmental Label | LEED Platinum Certification | Electronic Information Products Subject to China's National Voluntary Certification of Pollution Control | Japan Green Label | Energy Star

Green Manufacturing

Responsible Sourcing

Certified Sustainable Sourcing

- Sustainable sourcing has been approved by a third party, SGS, to reshape supply chain management in accordance with the ISO 20400 Sustainable Sourcing Guidelines, leading to a sustainable transformation of the supply chain and the use of 100% environmentally friendly materials for products and packaging materials.
- Obtained the world's first ISO 20400 Sustainable Sourcing Guidelines performance assessment certificate to create a sustainable supply chain.
- Through lifecycle assessment, it adopts the EPD (Environmental Product Declaration) method to calculate the environmental impact of our laptops from raw material sourcing, manufacturing, transportation, use and disposal.
- Uses responsible minerals, with the supply chain sourcing 100% of tantalum, tin, tungsten, gold and cobalt from qualified smelters.

Green Manufacturing

Active Energy Saving with Renewable Energy

Energy Management

- In 2016, it renovated its corporate headquarters, which is over 20 years old, by adopting a "green" and "smart" approach, and obtained "Smart Building Certification," "Green Building Label – Diamond Grade" and "US LEED Green Building Certification – Platinum Grade."
- Introduced ISO 50001 energy management system to identify energy-intensive hotspots and equipment, and progressively improve energy efficiency to reduce electricity usage by 1% per annum.
- Signed a MOU with renewable energy businesses to gradually increase the use of renewable energy.

Water Resource Treatment

- After identifying lifecycle environmental hotspots from water pollution caused by raw material extraction, it requires new suppliers to have an ISO 14001 system and assists existing suppliers to obtain ISO 14001 certification by 2025.
- It requires motherboard manufacturers to provide qualified wastewater testing reports annually, with 100% of motherboard suppliers meeting legal standards for wastewater testing values.

Waste Disposal

- Since 2015, it has been promoting the Zero Waste to Landfill Program at its corporate headquarters, using UL's Zero Waste to Landfill standard as a quantitative indicator to track the flow direction of waste.
- It undertakes annual audits of clearance operators to check compliance procedures, tracking of downstream partners, pollution prevention, etc. to ensure effective use of waste.
- 100% of suppliers commission certified waste clearance service providers.

Transport Packaging

Packaging Materials with Reduced Carbon and Plastic

- Through product design, it has replaced virgin plastics with environmentally friendly recycled plastics, and has used more than 565 tonnes cumulatively since 2017, reducing carbon emissions by approx. 1,017 tonnes of CO_2e.
- Priority use of recycled material sources in packaging materials, such as over 80% recycled material in the outer carton for transportation.
- The packaging is designed to reduce the amount of space wasted inside the packaging and to decrease the volume of packaging material used in the product.

Design for Use

Quality Management & Easy Disassembly Design

- Sets a target to outperform Energy Star by more than 30% per annum in average energy efficiency for key products.
- Introduced ISO 9001 quality management system certification, complemented by IECQ QC 080000 for the management of hazardous substances.
- Products are designed with recycling processes in mind, making them easy to dismantle and recycle.

End Treatment

Product Recovery & Recycling

- Establishes a free product recycling service in key production locations.
- Its global recycling services covered over 77% of the sales market and over 12,000 tonnes of e-waste in 2020, with 13.4% of total global sales volume recycled.
- Launched the "Recycled Computer Digital Nurturing Program" to turn used computers and components into recycled computers for donation to rural and disadvantaged communities.

AU Optronics Corporation

AUO MegaInsight

Company Profile (Honors)

- AUO started with the development of advanced display technologies and products, and with a focus on advanced display technologies, it is dedicated to becoming a solution provider in various fields by combining AIoT.
- With the goal of sustainable management, it has fulfilled its green commitment in all aspects of production processes, plant construction and energy recycling.
- Since 2010, it has been listed as a constituent stock of the DJSI; its Sustainability Report has received 11 awards from the Asia Sustainability Reporting Awards (ASRA); and has won 14 awards from the Taiwan Corporate Sustainability Awards and the Global Corporate Sustainability Awards.

Type	Limited by shares
Founded	1996
Industry	Photovoltaic and Green Energy
Products/Services	TFT-LCD design, manufacturing & development; solar energy solutions

Corporate Sustainability	Objectives
SBTi	• The Science Based Targets initiative (SBTi) review was approved with target of well below 2°C by 2025. • The target is to reduce absolute carbon emissions by 25% by 2025, to achieve zero carbon emissions from all office locations by 2030 and net zero emissions by 2050. • The ESG and Climate Committee was set up to develop a systematic blueprint and net-zero pathway for the three main areas of GHG emissions from internal and external operations to drive a low-carbon transformation across the board.
RE100	• Joined RE100 in 2022 and becomes the first company in the global display manufacturing industry to commit to full use of renewable energy by 2050.

Corporate Sustainability	Objectives
EV100	• Not a member of the EV100 initiative as of July 2023.
Carbon Disclosure Mechanism	• TCFD: The TCFD framework is used to review the risks/opportunities of a company's operations across a wide range of entities, market technologies and regulations, and to come up with mitigation measures and solutions to increase resilience. • GHG inventory & management: Since 2003, it has been conducting an inventory of GHG emissions from its global manufacturing plants and has introduced the ISO 14064 standard; in 2021, it became the first panel manufacturer in the world to be certified to the new ISO 14064: 2018 version of GHG emissions validation.
Carbon Pricing	• When the Paris Agreement came into effect in 2016, AUO started to promote a carbon pricing mechanism, tracking the international carbon trading market as a basis for the formulation and announcing the carbon price annually as a reference indicator for internalizing external costs. • AUO's announced carbon price for 2020 was NT$875 per tonne.

Green Mark Acquisition

MOEA Green Factory

綠色工廠
GREEN FACTORY

Taiwan EEWH Green Building Diamond

綠建築標章
GREEN BUILDING

LEED Platinum

Green Manufacturing

Responsible Sourcing

Local, Responsible and Carbon-reducing Sourcing

- In terms of material sourcing strategy, priority is given to suppliers with local production; the proportion of display raw materials supplied locally was approx. 90% in 2020.
- A supply chain conflict-free minerals policy was established and required to be implemented by suppliers in accordance with the Organization for Economic Cooperation and Development (OECD) due diligence process.
- As of 2020, the cumulative carbon reduction in green sourcing and logistics has reached 24,686 tonnes.
- It has continued developing environmentally friendly technologies and will continue to look for more diverse low-carbon solutions in fluorinated gases, fuels and raw materials, and is actively moving towards low-power techniques and processes.

Green Manufacturing

Green Energy & Energy Management

Renewable Energy Use

- Energy savings of 2.19% in 2020, as verified by the ISO 50001 energy management system and IPMVP.
- Working with leading domestic manufacturers to create green energy and build corporate rooftop / ground-mounted power plant projects.
- A total of 42 MW of solar installations have been installed on the idle space on the roof of the plant in Taiwan, with a total solar power generation capacity of approx. 55.75 million kWh in 2020, while the Kunshan plant has generated 5.24 million kWh of renewable energy for its own use.
- In 2018, it introduced the International Performance Measurement & Verification Protocol (IPMVP), a third-party professional measurement and validation organization, to conduct performance checks on large-scale energy efficiency projects.

Water Resource Treatment

- Continues to promote process water reduction, reuses recycled water and increases process water recovery; reduces process water consumption by 1.19 million tonnes and partially recovered 158.46 million cubic meters of process water in 2020.
- The Kunshan plant draws on reclaimed water from the wastewater plant system in the development area; in 2020, Kunshan used an average of 4,821 CMD of reclaimed water per day, making it the main source of process water for the plant.
- At the end of 2020, it introduced the ISO 46001 Water Resources Efficiency Management System on a trial basis to provide a detailed overview of the water consumption of the machine as required by the management system.

Waste Disposal

- The principle of disposal is to give priority to the reduction at source and reuse, followed by the production of resource-based by-products and recycling by qualified operators, and finally by incineration or landfill.
- Carries out regular checks and scoring of waste operators and identifies high-risk ones for better management.
- Monitors the tracks of the clearance operators and confirms the clearance routes through track analysis to prevent indiscriminate dumping incidents.

Transport Packaging

Packaging Material Recycling & Green Transport Model

- Promotes recycling of packaging materials from customers and suppliers, resulting in a cumulative saving of NT$910 million in re-purchased new packaging materials for a year.
- Introduction of green transport: reduces air transport by inland transport; replaces container trailers by inland feeder vessels; replaces air transport by truck mode.

Design for Use

Recycled Materials & Circular Economy

- Introduces recycled plastic into product applications, allowing PCR (post-consumer recycled plastic) from consumer products to be used in panels.
- The defective glass substrates to be scrapped are cleaned, inspected and returned to the production process to reduce waste generation.
- Received the world's first UL 3600 cycle coefficient certification for the panel industry in 2020.

Catcher Technology Co., Ltd.

Company Profile (Honors)

- Catcher started as an aluminum alloy die-casting company and began to research magnesium alloy die-casting technology in 1988. In 1994, Catcher cooperated with Taiwan laptop brands to develop magnesium alloy die-casting parts for laptops, and since 1998, it has been securing certifications from European and American laptop brands.
- Catcher has passed many green product and other certifications, including ISO 9001, ISO 9002, ISO 14001, ISO 14064 and ISO 45001:2018, TTQS, IATF 16949, ISO 13485.

Type	Limited by shares
Founded	1984
Industry	Computer and peripheral manufacturing
Products/Services	Computer, communication electronics shells and contract manufacturing

Corporate Sustainability	Objectives
SBTi	• Joined SBTi in 2023.
Carbon Disclosure Mechanism	• CDP: "Climate Change" questionnaire grade D (Disclosure) and "Water Safety" questionnaire grade C (Awareness). • GHG inventory & management: Passed ISO 14064 Greenhouse Gas Accounting & Verification.

Green Mark Acquisition

- ISO 9001 Quality Management System
- ISO 9002
- ISO 14001 Environmental Management System
- ISO 45001:2018 Occupational Safety & Health Management Standard
- ISO 14064 Greenhouse Gas Accounting & Verification

Green Manufacturing

Sustainable Sourcing

- Supplier Restricted Use of Hazardous Substances Management Code and Conflict-Free Minerals Declaration.

Green Process

Energy Management

- Installing inverters at circulating water pumps and low voltage electrical room extractors.
- Halving lighting fixtures or installing smart sensor lights to reduce energy consumption and carbon emissions.

Water Resource Management (Water Pollution Control Management)

- Fully carrying out wastewater management, reducing the amount of tap water used, enhancing the recycling rate of water in the plant, and recycling pure water through the pure water system for use in processes and cooling water towers.
- Arranging dedicated staff for the wastewater plant and purchased nickel on-line analyzer and COD on-line analyzer.

Air Pollution Management

- Installing appropriate air pollution control facilities and obtaining environmental permits in response to the introduction of new manufacturing processes and changes thereof.
- Environmental safety personnel regularly monitor VOCs and $PM_{2.5}$ in the plant and the perimeter of the emission pipeline to control the air quality in and around the plant.
- Developing advanced coatings and gradually increase the proportion of oil-based coatings to water-based coatings for the raw materials of the coating line to reduce the emission of VOCs.

Waste Management

- Catcher achieves effective reduction and resource efficiency through systematic source and trace management.
- Specific actions: Recycling waste plastics, using sludge drying system to reduce the weight of sludge.
- Each plant has appointed a dedicated manager for waste storage area and is equipped with a handheld 5-in-1 (O2/LEL/CO/VOC/H2S) gas detector.

Celxpert Energy Corporation

加百裕工業股份有限公司

Company Profile (Honors)

- Headquartered in Taiwan, with a presence in Mainland China and Indonesia, Celxpert not only provides battery products for laptops and high-power batteries, but also improves the efficiency of battery products to mitigate the environmental impact of the manufacturing process.

Type	OTC-listed
Founded	1997
Industry	Battery manufacturing
Products/Services	Pro battery modules

Corporate Sustainability	Objectives
SBTi	• In Dec 2021, Celxpert applied to join the SBT and signed a pledge to set a scientific carbon reduction target in stages based on the IEA's global warming scenario within 2°C. Committed to set SBT target.
RE100	• Not a member of the RE100 initiative as of July 2023. • It is committed to achieving 100% renewable energy use in Taiwan by 2035 and 100% in the world by 2040 • Celxpert aims to achieve its RE100 pledge through a strategy of autonomous energy conservation, green production and green energy generation.

Green Manufacturing

Responsible Sourcing

Sustainable Sourcing

- Celxpert implements a Conflict-Free Minerals Sourcing Policy by conducting supplier surveys based on the Conflict Minerals Reporting Template (CMRT) and signing a conflict-free minerals pledge to ensure that 100% of its purchases are made from legitimate suppliers.
- Subcontractors who purchase materials follow Celxpert's own green product management guidelines to ensure sustainable supply chain management.

Green Manufacturing

Diversified Programs for Carbon Reduction

Energy Efficiency & Renewable Energy

- The lighting fixtures have been completely changed from traditional fluorescent lamps to more energy-efficient and longer-lasting LED flat-panel lamps factory-wide, and in some areas, sensor-based light switches have been adopted.

Water Resource Treatment

- In addition to advocating water saving in summer, water saving taps have been installed in an effort to raise water efficiency.

Waste Disposal

- Launches the Responsible Business Alliance (RBA) Code of Conduct and obtained ISO 9001 & 14001 quality and environmental management system, OHSAS 18001 occupational safety and health management system, and IECQ QC080000 hazardous materials management process system certification.
- Promotes a diverse refuse management policy and develops control documents to achieve effective waste management and disposal through practical actions.

Design for Use

Enhancing Product Safety

- Under the stringent requirements and restrictions of battery product specifications, quality and safety, the three objectives of green design are "recyclable and dismantleable," "low pollution (toxicity)" and "energy (resource) saving."
- With battery product safety as its priority, Celxpert provides consumers with safe and premium products by passing international safety standards to protect consumers' rights and interests.

Cheng Uei Precision Industry Co., Ltd. (FoxLink)

Company Profile (Honors)

- FoxLink has a global presence in Mainland China, the US, Hong Kong and India, and has invested in renewable energy for many years, ranging from solar PV, land-based wind power, offshore wind power and hydro power, and has also committed to the private green energy-based electricity retailing enterprises and established a subsidiary, Foxwell Power Co., Ltd., with a view to going global with its energy services in the future.

Type	Public
Founded	1986
Industry	Electronic components
Products/Services	Power management, energy modules, wireless communication & optical products

Corporate Sustainability	Objectives
SBTi	• Joined SBTi in 2023, and the Science Based Targets initiative (SBTi) review was approved with target of well below 1.5°C by 2030.
RE100	• Shinfox Energy Co., Ltd., a subsidiary of FoxLink Group, is a green energy-based electricity retailing enterprise focusing on the investment and development, construction and operation and maintenance of renewable energy plants such as solar PV, offshore wind power, land-based wind power and hydropower, as well as the import of clean energy liquefied natural gas (LNG), green power trading platforms and ESCO energy saving and energy storage technologies.

Corporate Sustainability	Objectives
EV100/Green Transportation	Not a member of the EV100 initiative as of July 2023.
Carbon Disclosure Mechanism	• GHG inventory & management: A GHG inventory was carried out in 2018 in accordance with the ISO 14064-1 standard for GHG emissions across all plants.
Carbon Pricing	No information publicly available.

Green Manufacturing

Responsible Sourcing

Local Sustainable Sourcing

- Suppliers are required to be ISO 9001 certified; on top of this, a “Green Procurement Process” has been developed in keeping with the IECQ QC 080000 standard and suppliers are required to meet the criteria.
- The Company and the Group companies are dedicated and committed to promoting Corporate Social Responsibility (CSR) and to establishing the Group's approach to corporate responsibility and regularly reviewing its effectiveness in order to fully realize the Responsible Business Alliance (RBA) Code of Conduct.

Green Manufacturing

Diversified Programs for Carbon Reduction

Energy Efficiency & Renewable Energy

- Shinfox Energy and Foxwell Power, under FoxLink Group, are in the renewable energy-based electricity retailing sector, including solar, wind and hydro power plants, and FoxLink Group receives more than 20 T-REC renewable energy certificates per month.
- Shinfox Energy had already generated 165MWh of electricity annually, approx. 400 million kWh of electricity and 213,045 tonnes of carbon reduction by 2020.

Water Resource Treatment

- Through centralized control and real-time monitoring, it keeps tabs on the management of water resources across its major business locations and continues pushing for water conservation measures and resource recycling and reuse initiatives.
- Steps up the daily management of each plant to reduce the use of recycled water in infrastructure facilities such as air-conditioning and air compressors as well as domestic water for staff.
- Water reuse measures such as recycling of condensate from air conditioning and RO concentrated water and recycling of pure water from workshop equipment. The total amount of water recovered in 2020 was 6 times higher than in 2018.
- Production sewage is treated by appropriate wastewater treatment facilities.

Waste Disposal

- The Group is promoting a reduction in the consumption of non-hazardous waste such as plastics and paper, as well as increased recycling and zero waste to landfill projects, with a reduction of 550 tonnes of waste in 2020 compared to 2019.
- All waste from the plant is collected by category and recycled in an environmentally friendly manner through communication with a qualified waste clearance operator. A dedicated management unit is set up in accordance with ISO 14001 management procedures to effectively control the amount of waste generated at source.
- In 2020, the Dongguan and Kunshan production bases each attained UL 2799's platinum certification.

Design for Use

Boosting Green Energy Investment

- The Company in Feb 2022 built a factory in Arizona, US, which will be dedicated to the green energy industry, manufacturing products such as charging stations, battery assembly and energy storage equipment. This site will be FoxLink's first new production location in the US.
- In the future, it will partner with local energy storage equipment manufacturers to launch a joint venture in California to build a charging demonstration station, combining a DC quick-charge 180kW charging station with a 500kWh energy storage facility, in order to cope with the future high growth of electric vehicles and more fast charging needs.
- The Arizona plant will also provide total solutions for electric school buses, charging stations and energy storage, and will build charging stations and roll out energy storage programs that can also supply abundant vehicle to grid (V2G) power.

Chicony Group

Company Profile (Honors)

- Chicony has production bases in Suzhou, Dongguan and Chongqing, Mainland China and the Czech Republic, Europe, as well as branches in the USA and Japan.
- Its finished products shipped conform to international environmental regulations and standards, such as the RoHS (Restriction of Hazardous Substances) Directive in electrical and electronic products and use halogen-free materials or are certified by a third party.

Type	Public
Founded	1983
Industry	Computer hardware
Products/Services	Desktop keyboards, wireless keyboards, digital cameras, PC lenses and digital camera lenses

Corporate Sustainability	Objectives
SBTi	• Chicony joined the SBTi in 2022, amd the Science Based Targets initiative (SBTi) review was approved with target of well below 1.5°C by 2030. • It commits to reduce the emission intensity per million revenue in Scopes 1 and 2 by 56.8% by 2030 compared to the base year 2020. • It commits to a 44.2% reduction in emissions intensity per million revenue in the product use phase in Scope 3 by 2030 compared to the base year 2020.
RE100	Not a member of RE100 as of July 2023.
EV100/Green Transportation	Not a member of EV100 as of July 2023.

Corporate Sustainability	Objectives
Carbon Disclosure Mechanism	• Chicony has responded to the CDP questionnaire annually since 2010 to address the concerns of international investors about Chicony's climate governance. • TCFD: Chicony, by introducing TCFD in 2020, has carried out an inventory and disclosure of climate change risk and opportunity management and has already identified 10 material climate risks and 8 opportunities. • GHG inventory & management: Chicony complies with ISO 14061-1 to keep track of GHG emissions at the head office and at each plant through the inventory process and results.
Carbon Pricing	No information publicly available.

Green Mark Acquisition

Its operating headquarters in Sanchong, New Taipei City, received the 2018 APIGBA Platinum Award

APIGBA Asia Pacific Intelligent Green Building Alliance 亞太地區智慧綠建築聯盟 Asia Pacific Intelligent Green Building Alliance

Green Manufacturing

Responsible Sourcing

Requiring Suppliers to Comply with International Sustainability Standards

- Strives to improve real-time quality control and auditing at every stage of the supply chain, while pursuing energy conservation and maximizing environmental sustainability.
- Requires new or existing suppliers to sign the RBA Code of Conduct Compliance Statement, the Vendor Integrity Pledge and the Conflict Minerals Declaration to ensure that suppliers' purchases not only adhere to international regulations and customer requirements, but also create sustainability in the value chain.
- Improves local sourcing and reduces the carbon footprint of raw materials.

Green Manufacturing

Diversified Programs for Carbon Reduction

Energy Efficiency & Renewable Energy

- Continues to increase the use of renewable energy by purchasing renewable energy and installing solar power systems at all major plants.
- Implements energy saving programs in three main areas: air conditioning, lighting and process energy saving, and regularly reviews and retires energy-consuming equipment.
- Chicony's related department produces solar inverters, which can be used to convert electricity into utility power for use in the factory, and is working with major manufacturers in Taiwan to market them. A solar system is currently installed on the top floor of the Taipei headquarters building with 5.8kW (20 pcs of 290W polycrystalline silicon) and has an estimated annual capacity of 6,418 kWh.
- Chicony and Chicony Power's Dongguan plant obtained ISO 50001: 2018 certification in 2020.

Water Resource Treatment

- Chicony practices water conservation in-house and saves and recycles process water by upgrading the sewage sorting and discharge system.
- Recycles air conditioning condensate and process RO wastewater to supply water for air conditioning cooling.

Waste Disposal

- Chicony's head office and plants are ISO 14001:2015 certified, and its various sources of pollution are governed by a legal system that regularly tracks and reports waste generation and sets waste reduction targets.

Transport Packaging

Simplifying Packaging Materials

- Chooses packaging with low ecological toxicity.
- Simplifies packaging to reduce printing.

End Treatment

Waste Reduction

- Increases the use of recycled plastics for recycled production and minimizes the amount of plastic dumped in landfill sites.
- All products comply with WEEE regulations.

Design for Use

Increasing the Use of Recycled Materials

- Its active use of Post-Consumer Recycled Plastics (PCR) in products not only increases the recyclability of recycled plastics, but also lessens the impact on the environment and minimizes the amount of plastics dumped in landfill sites.
- In Chicony's four product lines, the use of recycled plastics in input devices and portable keyboard modules has increased. Recycled plastics account for 10%-30% of the input device products and portable keyboard modules.
- The percentage of plastic recycled material in the plastic housing of the connector power supply is 10%.
- In the course of conceiving new products, Chicony has always been mindful of green design. It develops energy-saving products, observe environmental regulations and lessens environmental impact.
- All Chicony products conform to EU RoHS, WEEE and other international environmental standards, as well as CE, FCC, ICES-003, VCCI, BSMI, UL, TUV and other safety regulations.

Chung Hwa Pulp Corporation

中華紙漿 Chung Hwa Pulp

Company Profile (Honors)

- Chung Hwa Pulp is a Taiwan-based pulp and paper converting company, with its main products being short-fiber broad-leaved wood pulp, cultural paper, cardboard and specialty paper.
- Chung Hwa Pulp has passed many green product and other certifications, including ISO 90001, ISO 14001, ISO 14064, ISO 50001, and ISO 45001.
- The company has received a number of sustainability-related awards, including the CSR Asia - Green Leadership Award, TCSA - Top 50 Corporate Sustainability Award, Bronze Award for CSR Report, as well as the "Excellent Green Purchasing Unit," "Excellent Adoption Unit for Air Quality Purification Area," and "Energy Saving and Carbon Reduction Action Mark" from the Department of Environmental Protection of Taipei City.

Type	Public
Founded	1968
Industry	Pulp and paper manufacturing
Products/Services	Converted paper products, specialty paper, chemical fertilizers, chemical products

Corporate Sustainability	Objectives
SBTi	• Joined SBTi in 2022.
Carbon Disclosure Mechanism	• TCFD: Introducing the TCFD framework and developing risk management responses, expected to be completed by 2023. • CDP: Grade C in the "Climate Change" questionnaire in 2022.

Green Mark Acquisition

- ISO 9001 Quality Management System
- ISO 14001 Environmental Management System
- ISO 50001 Energy Management System
- ISO 45001 2018 Occupational Safety & Health Management Standard
- ISO 14064 Greenhouse Gas Accounting & Verification

Ecovadis
Business Sustainability Ratings
TOP 10%

Taiwan Corporate Sustainability Awards
Two Awards
top50 in terms of
comprehensive performance & corporate
sustainability report award(gold) & Innovation

Asia Pacific Enterprise Awards

Asia
Responsible Entrepreneurship
Awards

Green Manufacturing

Sustainable Sourcing

- Strictly selects qualified suppliers, controls the source of raw materials, and confirms compliance with local government permits and FSC/PEFC certificates.
- Actively responds to the government's green procurement policy and gives priority to products with green certification.

Green Process

Energy Management

- Mapping out energy saving strategies and increasing the proportion of renewable energy use.
- Enhancing energy efficiency, reducing reliance on fossil fuels and investing in renewable energy, resulting in 23% lower fuel oil, 3% lower total electricity consumption and 12% lower water consumption than in 2018.
- Returned 5.16 million kWh of electricity and replaced 38,000 tonnes of coal with renewable energy (equivalent to an annual carbon reduction of 96,000 tonnes of CO_2e).

Water Resource Management (Water Pollution Control Management)

- Complies with domestic or local government environmental regulations and discharge standards.
- Implements water conservation and recycling targets, saving at least 1% of water annually.

Air Pollution Management

- Complies with domestic or local government environmental regulations.
- Continuously increases air pollution control equipment and carbon reduction management strategies in line with regulatory emission standards.
- Actively expands the use of biomass and renewable energy to reduce fossil fuels.

Green Materials

- Develops high value-added end-products covering food safety, healthcare, textile, consumer electronics, etc.; works on fiber materials; introduces biotechnology and chemical modification technology; strengthens environmental pulp production; and enhances energy efficiency and waste recycling.

Compal Electronics, Inc.

Company Profile (Honors)

- Compal is the world's No. 1 laptop manufacturer with a presence in Taiwan, Mainland China, Vietnam, India, Poland, the US and Brazil. As an industry leader, Compal develops green technologies with innovative techniques to address environmental issues and social well-being.
- It has been named to the FTSE4GOOD Index for six consecutive years and to the FTSE4Good TIP Taiwan ESG Index for four consecutive years.

Type	Public
Founded	1983
Industry	Electronics
Products/Services	Contract manufacturing for laptops and cell phones

Corporate Sustainability	Objectives
SBTi	• Join SBTi in 2022, and committed to set SBT target. • With 2014 as the base year, corporate GHG emissions were cut by 6% per million NTD in revenue before 2020 and Scope 3 GHG by 22.4% per million NTD in revenue in 2020.
RE100	• Not a member of the RE100 initiative as of August 2022. • Our long-term corporate strategy is to accelerate the construction of renewable energy facilities. We are already using solar power, which is cheaper than utility power, and have purchased hydroelectric power from 2020 onwards, and are continuing to tap into renewable energy sources.

Corporate Sustainability	Objectives
EV100	• Not a member of the EV100 initiative as of July 2023. • In terms of low-carbon transportation, Compal has forayed into car brands such as Mercedes-Benz and BMW as a contract manufacturer of ADAS (Advanced Driver Assistance System) and ECU (Electronic Control Unit) products to advance the electrification of the international auto industry through electronic parts and components.
Carbon Disclosure Mechanism	• TCFD: Followed TCFD recommendations and guidelines by 2019. • GHG inventory & management: Since 2010, we have been conducting ISO 14064-1 GHG inventories and external audits at our plants in Taiwan and Mainland China on an annual basis.
Carbon Pricing	No information publicly available.

Green Mark Acquisition

Taiwan Green Mark	EPEAT 2018	Mainland China Environmental Label	Energy Star	TCO Mark
25 items	63 items	40 items	100 items	32 items

Green Manufacturing

Responsible Sourcing

Local Sustainable Sourcing

- With its headquarters in Taiwan and production base in Mainland China, Compal has been diligently seeking local sourcing over the years in pursuit of production and supply efficiency and to boost the local economy, and has extended this philosophy to its new factory in Vietnam.
- Since 2016, Compal has committed to prioritize the sourcing of "green products" for internal general items; signed the EPA Green Procurement Letter of Intent and issued the Green Procurement Declaration for general items, and encouraged employees to purchase green products in their daily lives by disseminating green consumption knowledge.

Green Manufacturing

Diversified Programs for Carbon Reductio

Energy Efficiency & Renewable Energy

- Continues pushing energy saving projects and applying the ISO 14001 environmental management system across all plants. Promotes ISO 50001 management system certification and invites energy assessment companies to conduct measurements to identify and reduce inefficient waste and raise the efficiency of energy use.
- Facilitates the automation of production lines to improve energy efficiency.
- Builds an equipment networking system to connect equipment at different stages of use to facilitate remote monitoring and management.

Water Resource Treatment

- Compal's main production plants and domestic waste water are discharged to the government's sewerage management system and are regularly tested by a third-party body according to the discharge standards of the local authorities, and the quality of the effluent is found in conformity with the standards.
- In 2020, the company advocated for water risk assessment for suppliers and stepped up collaboration with stakeholders and governments in the region to endorse strategies for sustainable water resource management.

Waste Disposal

- Waste generated from each plant is centrally gathered and sorted, and then recycled or disposed of by professional and qualified clearance operators entrusted by category.

Transport Packaging

Packaging Material Reduction

- Improves packaging design to lessen the impact of packaging materials on the environment by reducing packaging volume, designing for optimal use of volume and simplifying packaging design.

Design for Use

Product Life Cycle Green Thinking

- Product green design incorporates life-cycle assessment thinking.
- The products are energy efficient, use halogen-free materials to mitigate the impact on the environment, use PVC-free non-toxic plastic materials, and carry out total substance disclosure, combined with control in the product substance management system.
- The products are designed for use in accordance with the EU energy product ecodesign directive, the US Energy Star program and human factors design.

End Treatment

Products Designed for Easy Recycling and Dismantling

- Prohibits or reduces the use of harmful chemical substances.
- Uses single plastic material types as far as possible and actively develops and introduces recycled and biodegradable plastics into electronic products.
- Product plastics need to be compatible with chemically treated raw materials in order to be recyclable.
- The product is designed to be easily dismantled and recycled.
- The modular design of the product allows for easy replacement and upgrading of key components to achieve extended product lifecycle goals.
- Packaging materials are labelled with a recyclable symbol to remind consumers to recycle when they are disposed of.
- The plastic parts above 25 grams are marked with their material composition to facilitate back-end recycling and increase recycling efficiency.

Coretronic Corporation

Company Profile (Honors)

- Coretronic was set up in Hsinchu Science Park, and since its inception, the company has established itself as "provider of innovative display system integration solutions," is the first LCD backlight module manufacturer in Taiwan, and pioneered the development and mass production of the world's smallest and lightest VGA monolithic LCD projector and XGA DLP projector, which ushered in a new era of display systems in Taiwan.
- Having been awarded the CommonWealth Magazine's "Excellence in CSR" award for corporations for 10 straight years from 2012 to 2021, Coretronic is committed to CSR and encourages companies to achieve the goal of "Net Zero by 2030 for office locations, and Net Zero by 2050 for manufacturing and service locations" through a variety of energy-saving measures, process improvements, and energy substitutions.

Type	Public
Founded	1992
Industry	Optoelectronics
Products/Services	Imaging solutions, projectors, backlight modules, LED lighting, optical engine and AR glasses module integration solutions, smart AI drones, smart retail platforms

Corporate Sustainability	Objectives
SBTi	• Submitted a commitment to SBTi in 2022 to achieve a 50% carbon reduction by 2032 and net zero emissions by 2050, based on the SBT 1.5°C scenario against the 2020 baseline year. It is expected that the science-based reduction targets will be submitted and approved in 2024.
RE100	• Not yet joined RE100 as of July 2023. • Constructed a number of solar power generation systems in plants in Taiwan and China and purchased renewable energy to increase the utilization of renewable energy.

Corporate Sustainability	Objectives
EV100	Not yet joined EV100 as of July 2023.
Carbon Disclosure Mechanism	• TCFD: Signed up to and adopted the TCFD framework in 2020. Evaluated the financial impacts of climate change and produced a risk and opportunity matrix in 2021-2022, further evaluated the financial risks caused by climate change, and continued to promote the assessment of energy, carbon emissions, and extreme climate risks, and preventive measures. • CDP: Completed the Climate Change Questionnaire for 4 consecutive years. Leadership (A-) rating for supplier engagement; Management (B) for climate change questionnaire; Management (B) for water safety questionnaire. • Pursuant to ISO 14064-1 GHG Inventory Standard, Taiwan plant passed ISO 14064-1 GHG Verification, GHG emission intensity reached 2022 target, 49% reduction compared to 2019.
Carbon Pricing	The Sustainability Report mentions the development of carbon pricing, but details are not publicly available.

Green Mark Acquisition

All 4 plants in Taiwan have passed ISO 50001, ISO 14064-1 certification.

CommonWealth Magazine's Excellence in CSR award for the 10th consecutive time in 2021.

Won the TCSA - "Corporate Sustainability Report Award" for 4 straight years in 2020.

Green Manufacturing

Sustainable Supply Chain

- Green Raw Materials: Introduced a green accounting system to collect and analyze the performance of green procurement, and actively purchases green raw materials to thoroughly implement green supply chain management.
- Conducts classification and management according to the characteristics of suppliers and the goods and services they provide, and prioritizes local sourcing as a strategy to minimize the carbon emissions generated during transportation.
- Mapped out the "Online Green Supply Chain Platform" in 2022, which includes online sustainability courses, columns on sustainability knowledge, uploading of signed documents on sustainable supply chain requirements, a platform for sustainability surveys, and conflict minerals surveys, etc., which is scheduled to be built from 2023 to 2025.
- Establishment of a Circular Supply Alliance: Promotes waste reuse programs with suppliers and carries out recovery programs for packaging materials such as plastics and paper.

Green Manufacturing

- Product Carbon Footprint Inventory: Carbon emissions at each stage of the product life cycle can be analyzed through the carbon footprint inventory.
- Improvement of Light-Guide Panel Process: Adjusting the production temperature can save 0.25 kWh of electricity per hour.

Water Resource Management

- Maximizes water efficiency.
- Enhances the upstream and downstream value chain's attention to and conservation of water resources.
- Sets water conservation targets and reviews them regularly to achieve them.
- Continuously promotes various water conservation programs to attain water conservation results.
- Identifies feasible water conservation measures through daily management and inspections.
- Pushes water resource education to enhance water literacy among stakeholders.

Waste Management

- Steps up waste management and raises the proportion of recycled resources.
- Cuts waste generation by designing products with reduced volume and materials.
- Prioritizes the use of recycled materials to reduce and recycle waste.
- Appoints a legal contractor to clean up the waste.

Transport Packaging

Recycling to build a circular economy

- Performed drop tests and storage tests on plastic and paper-based packaging materials made of recycled waste paper, which can be used after passing the tests. This eco-friendly cushioning material can effectively reduce the variety of packaging materials and cut down the volume of packaging, and the ratio of using plastic and paper-based packaging materials for projectors shipped reached 68% in 2021.
- Reduced packaging volume, improved container performance, stackable products, storage space saving and increased transport loading rate.

- Uses recycled pulp cartons, recycled trays, FSC certified cartons, and recyclable or reusable materials to package products for shipment.
- Reducing fuel consumption in maritime transport by introducing packaging reduction on the projector platform.

GREEN Design

Optimizing product design to reduce carbon emissions

- Increases energy efficiency and reduces carbon emissions via laser technology to save energy.
- Uses environmentally friendly PCR recycled materials to manufacture the projector cases.
- Optimizes volume through product design and minimizes carbon emissions from machinery during transport by maximizing the load capacity of each container through compact product size and packaging.

CymMetrik Enterprise Co., Ltd.

Company Profile (Honors)

- CymMetrik is the largest professional package label printing service provider in the Greater China region, headquartered in Taipei, Taiwan, and extends to 15 domestic and overseas locations, including: Tainan, Shanghai, Shenzhen, Kunshan, Yantai, Chongqing, Henan, Dongguan, Zhejiang, Southern Vietnam, Northern Vietnam, Thailand, Texas, Mexico, etc., as well as offices in Hong Kong and Silicon Valley in the US.
- The Group has published and implemented a Social and Environmental Responsibility (SER) Policy and has obtained numerous green product and other certifications, including ISO 14001, ISO 45001 and IECQ QC 080000.

Type	Limited by shares
Founded	1969
Industry	Computer and peripheral equipment manufacturing
Products/Services	Electronics, household chemicals, automobiles, healthcare, green energy, etc.

Corporate Sustainability	Objectives
SBTi	Joined SBTi in 2023.

Green Mark Acquisition

- ISO 14001 Environmental Management System
- ISO 45001: 2018 Occupational Safety & Health Management Standard

IECQ QC 080000 Hazardous Substance Process Management System

Green Manufacturing

Sustainable Sourcing

- Conflict-Free Minerals Statement: Requires suppliers to refrain from directly or indirectly funding or benefiting any armed groups in the DRC or in neighboring countries/regions that trample on human rights with regard to metal raw materials such as 3TG minerals (tantalum, tin, tungsten, gold, cobalt, and mica).

Green Process

Energy Management

- Cutting power consumption by installing central air-conditioning inverters, automated control devices, replacing air compressors, switching to one-piece vacuum systems and water chillers, and so on.

Water Resource Management (Water Pollution Control Management)

- Saving water through water recycling system.

Waste Management

- Considering whether the final waste can be used as raw materials for production or recycled for reuse, targeting ink, release paper, solvents, toner cartridges, plastic bags, and other wastes for recycling.

Darfon Electronics Corp.

Company Profile (Honors)

- Darfon has a global presence in Mainland China, the Netherlands, the USA, the Czech Republic, South Korea and Japan. In recent years, Darfon has been turning to the solar, plasma, battery and green energy industries, with a focus on solar inverters and energy storage systems. Product focus: keyboards, inductors, e-bikes, solar PV Inverter and energy storage systems for the green energy industry.
- 2019 Taiwan Corporate Sustainability Awards (TCSA).

Type	Limited by shares
Founded	1997
Industry	Computer & peripheral manufacturing
Products/Services	R&D, design, manufacture and sales of computer peripherals and electronic components

Corporate Sustainability	Objectives
SBTi	• Short-term target: Reduce GHG emissions by at least 1% per year compared to the previous year. • Mid-term target: Reduce absolute GHG emissions by 20% by 2024, with 2014 as the base year. • Long-term target: Reduce absolute GHG emissions by 50% by 2030, with 2014 as the base year.
RE100	• Not a member of the RE100 initiative as of July 2023. • All of Darfon's self-owned plants are equipped with solar power installations with a total installed capacity of 7,124 kW and a total annual generation capacity of 17.61 million kWh.
EV100	• Not a member as of July 2023.

Corporate Sustainability	Objectives
Carbon Disclosure Mechanism	• TCFD: Promotes the management system mandated by the TCFD disclosure proposal in compliance with the standards of the FSC to disclose climate change measures. • GHG inventory & management: Annual emissions inventory and verification is carried out in accordance with IS0 14064-1 GHG inventory standard.
Carbon Pricing	No information publicly available.

Green Mark Acquisition

2019 Taiwan Corporate Sustainability Awards (TCSA)

TCSA 台灣企業永續獎

Green Manufacturing

Responsible Sourcing

Carbon Reduction with Suppliers

- Collaborates with suppliers to conduct GHG inventories and strengthen the depth of GHG management in the supply chain.
- The annual management of suppliers includes quality audit, green products, RBA, GHG inventory/water footprint, responsible mining, etc., in the hope that through cooperation with suppliers, it can meet the goal of sustainable development.
- Darfon's business locations have chosen local suppliers as their priority purchases, and the combined percentage of local purchases stood at 66.65% in 2020, a significant increase of 14.13% compared to 2019.

Green Manufacturing

Diversified Programs for Carbon Reduction

Energy Efficiency & Renewable Energy

- Darfon has installed solar power installations at all its production sites, with a cumulative annual output of 17.61 million kWh, which cut emissions by 4,302.42 mt of CO_2 in 2020.
- The energy consumed during testing is transferred to the battery system to achieve energy recycling, saving more electricity as more is produced. The electricity recovery reached 84.99% in 2020.

Water Resource Treatment

- The wastewater from each manufacturing site is treated in the plant and discharged to the sewage treatment plant of each county and municipal government.

Waste Disposal

- All types of waste are disposed of by local qualified waste clearance operators.
- Waste reduction measures are promoted, including the regeneration of activated carbon to prolong its useful life; waste from production lines is sorted and controlled, and classification and management measures are adopted for weighing before warehousing to effectively sort hazardous industrial waste.

Transport Packaging

Recyclable Packaging Materials

- Packaging materials are purchased in a recyclable manner to reduce waste.

Design for Use

Material Reduction & Energy Efficiency

- The new products continue to drive improvement projects in all areas with the aim of saving materials, introducing recycled materials, using low-impact materials, providing energy efficiency and friendly packaging.
- The new-generation household energy storage products feature a new circuit design architecture that boosts battery output to grid conversion efficiency by 5% to over 96%.

End Treatment

Easy-To-Recycle & Easy-To-Disassemble Product Design

- The design is based on the principles of easy and safe dismantling of product components, reduction in the number of types of rivet posts used, dismantling of product components by one person using common tools, and avoidance of fusion between different components, thus increasing the recycling rate of product components and materials.

Delta Electronics, Inc.

Company Profile (Honors)

- Delta has a global presence in Mainland China, Japan, Singapore, Thailand, the US and Europe. With its commitment to environmental protection, the company continues developing and raising the energy conversion efficiency of its power supply products, with the mission of protecting the environment and conserving energy for the planet.
- Since 2011, Delta has been listed in the DJSI World Index for 11 consecutive years, and was awarded the first double "A" leadership rating for climate change and water security in Taiwan in the 2020 CDP Annual Review, and was named a "Supplier Engagement Leader."

Type	Public
Founded	1971
Industry	Electronic components
Products/Services	Power & components, automation and infrastructure

Corporate Sustainability	Objectives
SBTi	• Passed the SBTi compliance audit in Dec 2017, becoming the first company in Taiwan and the 87th in the world to have passed the review. The Science Based Targets initiative (SBTi) review was approved with target of well below 1.5°C by 2030. • Aims to reduce carbon intensity by 56.6% by 2025, with 2014 as the baseline. • In 2020, Delta's carbon intensity in Scope 1 and Scope 2 stood at 21.8 in major plants, down 55% compared to the 2014 base year and 37% compared to 2018, achieving the scientific carbon reduction target in three straight years.

Corporate Sustainability	Objectives
RE100	• In 2021, Delta announced that it had joined the RE100 initiative, committing all of its global locations to achieve a total target of 100% renewable electricity use and carbon neutrality by 2030, making it the first company in Taiwan's high-tech manufacturing industry to pledge to reach the RE100 target by 2030. Delta focuses on energy conservation, in-house solar power generation for own use and self-built power plants, while evaluating the maturity of trading in the local green power market, and striving to attain the RE100 commitment with power purchase agreements or renewable energy certificates.
EV100	• Delta joined EV100 and became the first EV100 member in the world to offer an energy infrastructure for electric vehicles. • The company has pledged to provide charging pile facilities at Delta locations and convert company vehicles to plug-in hybrid and pure electric vehicles, as well as hydrogen-fueled vehicles, by 2030.
Carbon Disclosure Mechanism	• TCFD: Delta became a TCFD supporter in 2018 after disclosing information on climate governance, strategy, risk management and target objectives under the TCFD framework in its 2016 annual report. • GHG inventory & management: 100% of Delta's production sites were certified to ISO 14064-1 starting in 2019.
Carbon Pricing	• In Dec 2020, the company set an internal carbon price of US$300 per metric tonne. The internal carbon fee is used for energy saving projects and the acquisition of renewable electricity, and to carry out the integration of carbon management decisions and risk management at the plant and business entities.

Green Mark Acquisition

Taiwan Green Mark & Energy Label		Mainland China Environmental Label	Energy Star Most Efficient Products	80 PLUS Certification
44 items	75 items	71 items	88 items	364 items

Green Manufacturing

Responsible Sourcing

Local Sustainable Sourcing

- Leads supply chain carbon, water and waste management inventories and disclosures at international production sites.
- Increases local sourcing to reach 24% of local materials in Taiwan and 45% in Mainland China in 2020 to reduce the carbon footprint of raw materials.
- Direct material suppliers are required to have ISO 9001 certification and comply with environmental management material requirements, and are encouraged to have ISO 14001. Suppliers are also assessed on their ESG risk level, training materials are shared, and ESG sustainability performance is included as an incentive to select excellent suppliers.

Green Manufacturing

Diversified Programs for Carbon Reduction

Energy Efficiency Boost

- Phases out diesel with LNG and optimizes efficiency of boiler fuels to reduce usage.
- The Energy On-line Monitoring and Information System continues promoting energy saving projects.
- Promotes green buildings to save energy, and annually evaluates the energy savings based on the power usage effectiveness (PUE) of the data center server room.
- Delta's certified green building data center saved a total of 257,766 kWh of electricity and approx. 203 metric tons of carbon in 2020.

Renewable Energy Use

- With green power purchasing or renewable energy certificates, it aims to achieve 100% renewable electricity use and carbon neutrality by 2030.
- In 2020, Delta's main production plants generated an aggregate of 25.3 GWh of solar energy and purchased 285 GWh of international renewable energy certificates. Renewable electricity from major production plants represented approx. 55.1% of the overall electricity consumption and reached approx. 45.7% of the renewable electricity use for global locations.

Water Resource Treatment

- Wastewater from Delta's major production plants and buildings is treated by proper wastewater treatment facilities.
- 80 new schemes for rainwater storage, condensate recovery, outlet pressure control, equipment adjustment and improvement at global plants in 2020.

Waste Disposal

- Since the introduction of UL 2799 zero waste burial certification at Delta's Dongguan site in 2019, Delta has adopted this concept and methodology at all of its plants worldwide.

Transport Packaging

Working with Suppliers to Adopt Green Packaging Materials

- Injection molding jigs reduce plastic waste.
- Works with processors to implement recycling of packaging materials such as EPE and paper.
- Replaces cardboard boxes with reusable carriers (plastic frames) for shipping plastic shells, etc.
- Recycles bottles and logs from shipping pallets.

Design for Use

Increasing Product Energy Efficiency

- Delta communications power supply effectiveness up to 98%.
- Solar inverter effectiveness up to 99.2%.
- Auto DC power converter efficiency up to 96%.
- Overall energy management system effectiveness 90% or above.
- The product has been awarded for the second straight year the Energy Star Award for Sustainability in 2020, helping users reduce energy consumption through product development.

End Treatment

Products Designed for Easy Recycling and Dismantling

- The easy-to-recycle and easy-to-disassemble design increases the reuse and recycling rates of electronic products and materials.
- Works with recycling organizations in the regions where products are shipped to ensure that they are properly recycled when they are disposed of, such as Innergie power banks and chargers, which are registered with the EU and are part of the German waste recycling system.

E Ink Holdings Inc.

Company Profile (Honors)

- E Ink is present in Mainland China, Japan, South Korea and the US. Its main product, e-paper, replaces disposable paper and is reusable over the long term, significantly reducing the consumption of disposable paper and saving 2.37 million tonnes of CO_2 over the past five years, in line with ESG sustainability goals.

Type	OTC-Listed
Founded	1992
Industry	Electronics
Products/Services	Display technology

Corporate Sustainability	Objectives
SBTi	• E Ink signed The Climate Pledge (TCP) in March 2022 and has also joined the SBTi initiative, the first company in Taiwan to be a signatory to the TCP, and is dedicated to achieving the net zero carbon emissions target by 2040. Eink also committed to set SBT target.
RE100	• The company joined RE100 in March 2022 and expects to use 10% renewable energy by the end of 2022, 40% by 2025 and 100% by 2030 to meet the RE100 target. • The company aims to fulfill its RE100 commitment by increasing the proportion of renewable energy used at each of its plants worldwide each year through the purchase of renewable energy certificates (RECs) or by entering into power purchase agreements (PPAs) with electricity retailing enterprises.

Corporate Sustainability	Objectives
EV100/Green Transportation	Not a member as of July 2023.
Carbon Disclosure Mechanism	• TCFD: E Ink has in 2019 introduced the TCFD framework to disclose information on climate governance, strategy, risk management and target objectives. • GHG inventory & management: Since 2005, some of its plants have been certified to ISO 14064-1.
Carbon Pricing	No information publicly available.

Green Mark Acquisition

Taiwan Corporate Sustainability Awards (TCSA)

TCSA 台灣企業永續獎

Asia Pacific Climate Leader 2022

FT FINANCIAL TIMES | CLIMATE LEADERS 2022 statista

Asia Responsible Enterprise Awards - Green Leadership

AREA ASIA RESPONSIBLE ENTREPRENEURSHIP AWARDS 亞洲企業社會責任獎

Green Manufacturing

Responsible Sourcing

Local Sustainable Sourcing

- Increases local sourcing with local materials accounting for 33% in Taiwan and 17% in Mainland China in 2020 to reduce the carbon footprint of raw materials.

Green Manufacturing

Green Manufacturing

Diversified Programs for Carbon Reduction

Energy Efficiency & Renewable Energy

- Process equipment is being replaced, machine operations are being optimally managed, and LED lighting is being introduced into the plant.
- Aims to achieve 100% renewable electricity use by 2030 through the purchase of renewable energy certificates.
- Solar panels were installed on the roofs of some of E Ink's plants.

Water Resource Treatment

- Aims to reduce water consumption per unit of product by 20% by 2025 compared to the base year of 2021.
- E Ink's process cooling water saving program allows the number of daily refills to be reduced to achieve water savings.
- The recycled water program allows a drop of water to be reused up to 1.9-2.5 times.
- Separation of wastewater and waste liquids can reduce the amount of wastewater produced, lower the concentration of pollutants and decrease the amount of water treatment chemicals used.

Waste Disposal

- Aims to reduce total waste generation per unit of product by 20% by 2025 compared to the base year of 2021.
- In order to reach resourcezation and raw material saving, the company regards recycling as first priority. If the waste cannot be recycled, it will be stored centrally and incinerated, and finally the waste that cannot be incinerated will be disposed of by landfill.

Transport Packaging

Working with Suppliers to Adopt Green Packaging Materials

- Improves the design of packaging materials for e-label products.
- Eliminates pearl cotton cushioning materials.

Design for Use

Increasing Product Energy Efficiency

- By capitalizing on the power/paper saving advantages of e-paper, the company is expanding its product applications such as electronic shelf labels, mobile devices, smart homes and e-paper digital signage to promote sustainable living, energy conservation and carbon reduction.
- E-paper R&D technologies are moving towards lower energy consumption, with a 20% reduction in electricity consumption per unit of product by 2025 compared to the base year of 2020.

Far Eastern New Century Corporation

遠東新世紀
FAR EASTERN NEW CENTURY

Company Profile (Honors)

- FENC is the largest and most diversified textile and related products manufacturer in Taiwan, with its textile headquarters in Taiwan and production bases in Southeast Asia and China.
- In addition to the extensive use of recycled polyester and biodegradable materials, the company has also invested in the application of biomass raw materials to replace traditional petrochemical raw materials, producing the world's first batch of 100% biomass polyester garments, which were selected as the official material for the World Cup football matches. It has also worked with Adidas and Parley for the Oceans to launch an ocean recycling yarn program.
- The company has received numerous green product and other certifications, including ISO 46001, ISO 14064-1: 2018, ISO 14040: 2006, ISO 14044:2006, ISO 14067:2018, ISO 14046: 2014, ISO 46001, ISO 9001, ISO 14000, ISO 14001, ISO 50001, ISO 26000, ISO 45001:2018, ISO 27001, and ISO 22000.

Type	Public
Founded	1958
Industry	Textile & garment
Products/Services	Textile and chemical fiber products

Corporate Sustainability	Objectives
SBTi	• Joined SBTi in 2023 and set short, medium and long-term carbon reduction targets. – Short-term goal (by 2025): Actively promote GHG reduction measures and manage GHG according to ISO14064-1 and reduction standards. – Medium-term goal (by 2030): Analyze the energy transition and reduction pathways in the relevant scenarios. – Long-term goal (by 2050): Achieve net zero emissions and limit global warming to 1.5°C.

Corporate Sustainability	Objectives
Carbon Disclosure Mechanism	• TCFD: Starting from 2019, identifies the risks and opportunities of climate change and action plans based on the TCFD framework every year. Subscribed to the TCFD in 2020, being the first from the traditional industry in Taiwan to sign and publish the declaration. • CDP: Obtained Grade B (Management) in "Climate Change" and "Water Safety" questionnaires.

Green Mark Acquisition

- ISO 46001 Water Efficiency Management
- ISO 14064-1:2018 Greenhouse Gas Inventories
- ISO 14040: 2006 Life Cycle Assessment
- ISO 14044: 2006 Life Cycle Assessment
- ISO 14067: 2018 Carbon Footprint
- ISO 14046: 2014 Water Footprint
- ISO 46001 Water Efficiency Management Systems
- ISO 9001 Quality Management System
- ISO 14000 Environmental Management
- ISO 50001 Energy Management System
- ISO 26000 Social Responsibility Guidance
- ISO 45001 Systematic Management

Taiwan EPA's Green Mark

Green Manufacturing

Sustainable Sourcing

- Additional assessment criteria are set for different types of procurement cases, and relevant clauses are stipulated in the contract to ensure that the supplier complies with the requirements (including environmental, labor practices, human rights assessment and social assessment).

- For the procurement of raw materials, FENC follows the internal procurement management process and procurement practices to select suppliers of raw materials that comply with laws and regulations and ESG requirements at a standard stricter than that of the industry, and appoints external independent inspection companies to conduct inspections.

Green Process

Energy Management

- Reducing energy consumption per unit of output by 3% and GHG emissions per unit of output by 5%.
- Executing energy-saving projects, solar power generation, and installing renewable energy equipment with 8% of the contract capacity of Taipower.

Transport Management

- By carefully selecting carriers and inland carriers, FENC puts environmental protection, energy conservation and carbon reduction in transportation as a priority in its assessment, requiring them to comply with the environmental regulations of countries around the world regarding port calls, gas emissions, fuel consumption and waste oil treatment.
- FENC works with IMO 2020 compliant carriers that use low sulfur fuel oil with a sulfur content of less than 0.5% throughout the entire voyage, or equivalent emission reduction devices, or alternative fuels, which can reduce sulfur pollution by about 80% compared to conventional vessels. The company pays a low sulfur surcharge (LSS).

Water Resource Management

- Oriental Petrochemical (Taiwan) Plant 2 has passed the external verification of ISO 46001 system for water resource efficiency management.
- FENC adopts a management system that includes water cascading, rainwater storage and effluent treatment for recycling, as well as water quality and spillage prevention and risk management of water sources, and applies artificial intelligence to water-saving equipment.

Air Pollution Management

- Continuously introduces air pollution prevention technologies and regularly reviews existing facilities and production processes to ensure that all emissions comply with regulations, including the establishment of air pollution management targets and regular testing.
- Investing in selective catalytic reduction denitration equipment, switching to natural gas boilers, and installing setter smoke purification equipment.

Waste Management

- In compliance with ISO14001, FENC practices waste reduction at source, waste classification and sorting, and recycling, with a 91% reuse and recycling ratio.
- FENC introduced the waste intelligent management system and waste-to-energy technology, and installed sludge treatment equipment with GPS to monitor the track of waste treatment.

Transport Packaging

Green Materials

- Giving priority to materials that can be recovered, reused or reduce the amount of packaging material used.
- Producing Bio-MEG from biomass raw materials in place of petroleum raw materials; using recycled PET bottles as raw materials for recovery and recycling.
- Adding high heat-absorbent and energy-saving ester particles, lightweight bottle preforms, combined with atmospheric cationic deep-dyeing polyester fiber, and adding dope-dyeing fiber in the process of drawing to reduce energy consumption.

Flexium Interconnect, Inc.

Company Profile (Honors)

- The first FPC manufacturer publicly traded in Taiwan, one of the leading makers in Kaohsiung. The Group's operations cover Kaohsiung and Taoyuan, Taiwan; Kunshan and Xiamen, China; and the U.S. Its customer base consists of large multinational EMS factories, as well as well-known brand companies in Japan, Europe, and the U.S.A. Its products include FPCs and FPCAs.
- The company values CSR fulfillment and its contribution to society and the environment, and pursues the vision of "becoming an actor in corporate sustainability, making society more loving and the environment better," and adopts "Love, Health, Green, Regeneration, Integrity, and Improvement" as the policy direction of corporate sustainability management.

Type	Public
Founded	1997
Industry	Electronics manufacturing
Products/Services	• Materials, circuit design, module testing, high-frequency and high-speed products, and automation equipment technology. • FPC (flexible printed circuit) module customization service • MPI and LCP antenna module new technologies • Layout and signal simulation design services

Corporate Sustainability	Objectives
SBTi	• Not yet joined SBTi as of July 2023. • To reduce carbon emissions by 1,200 tonnes per annum by 2025.

Corporate Sustainability	Objectives
RE100	• Joined RE100 on Sept 5, 2022, committing to a goal of 100% renewable energy use company-wide by 2040. • Evaluated in 2022 the feasibility of renewable energy deployment. In the short term, build energy storage facilities and purchase renewable sources (wind and solar) as a solution to the power shortage problem for the time being. In the medium term, evaluate and compare the technical costs of purchasing renewable energy, energy storage, and building its own power plants or other renewable generation, and look for other alternatives. In the long term, build its own power plants or seek other alternatives.
EV100	Not yet joined EV100 as of July 2023.
Carbon Disclosure Mechanism	• TCFD: Introduced a TCFD framework to strengthen the company's climate resilience in the future. Regularly identifies the company's climate change related transformational and physical hazards, evaluates their risks, and establishes immediate and effective emergency response measures. • GHG inventory & management: A GHG inventory system was instituted in 2009, with 2018 as the baseline year for the inventory, which serves as the basis for calculating the carbon reduction target. Refer to ISO 14064-1:2006 standard to quantify GHG emissions, and adopt ISO 14064-1:2018 organizational GHG inventory standard after 2022 as the basis for emission inventory.
Carbon Pricing	No information publicly available.

Green Mark Acquisition

Jan 2019: Kunshan plant in China was certified "Gold" by AWS Standard.

Mar 2021: Kunshan plant in China was certified "Platinum," the highest level of UL 2799 Zero Waste to Landfill.

Green Manufacturing

Responsible Sourcing

Conducting due diligence to establish responsible mineral supply chains

- Observes the "Supplier Management Procedures," "Supplier ESG Evaluation Management Regulations," "EHS Supplier Evaluation Procedures," etc., and requires suppliers to sign the "Integrity Commitment," "Supplier Code of Conduct Consent Form," and "Statement of Responsible Minerals Policy."
- Formulated a responsible minerals policy to manage the responsible sourcing of tantalum (Ta), tin (Sn), tungsten (W), gold (Au), cobalt (Co), and mica. While there is no prohibition on sourcing minerals from the DRC or neighboring countries in Africa, minerals are only sourced from qualified smelters that comply with the Responsible Minerals Assurance Process (RMAP) and customer requirements.
- Conducts due diligence and audits of the supply chain, establishes a risk management mechanism as per the OECD guidelines, and collaborates with the supply chain to practice responsible sourcing strategies.

Green Sourcing

Reducing carbon footprint by sourcing locally

- Flexium is committed to the localization of raw material purchasing to support the development of local suppliers, which not only cuts down on unnecessary air and sea freight costs, but also reduces the carbon footprint generated during the delivery of materials.
- To facilitate the implementation of the green sourcing policy, Flexium purchases products that conform to domestic and international energy-saving and environmental labels, such as ENERGY STAR® and FSC, and the amount of related green purchases in 2021 reached NT$7.65 million, representing 0.243% of the total purchases.
- Completed the revision of the "Supplier Code of Conduct Consent Form," and from Feb 2022, 151 key suppliers were required to subscribe to the new version of the consent form," pledging to fulfill Flexium's requirements for business conduct in the areas of labor, health and safety, the environment, business ethics and management systems.
- Flexium's green commitment lies in the "Green Technology, Harmless Environment, Compliance with International Laws and Regulations, and the Three Noes." Flexium will not use, manufacture, or deliver hazardous substances prohibited by customers."

Eco-friendly Plants

- When new plants were built, the company incorporated green planting, water and electricity conservation into the relevant energy saving and environmental protection schemes to curtail the depletion of natural resources by production activities.
- The plant is equipped with green vegetation, and in terms of energy-saving planning, large energy-consuming equipment is controlled by inverter, supplemented by warm water and chilled water supply to reduce the loss associated with energy conversion.

- Waste hot water (condenser water return) from the chiller is recovered and directed back to the humidification system in the MAU, replacing the energy-consuming electric heaters in the humidification system.
- Established a plant-wide cooling water system, and gave priority to the use of reclaimed water recycling system to supply water to the scrubber and raised the recycling rate of water resources.
- Wastewater in the plant is collected through dedicated pipes according to its chemical characteristics, and recycling and treatment are carried out separately for each type of wastewater to improve the efficiency of heavy metal recovery and the proportion of wastewater recycled.

End Treatment

Waste Gas

- Established "Air Pollution Control Procedures" and "Acid Scrubber Waste Treatment Guidelines," as well as exception management, such as "Waste Gas Scrubber Emergency Response Guidelines." Assigned qualified personnel trained in air pollution prevention to operate stationary pollution sources equipment, and document operations regularly to ensure compliance with regulatory requirements.

Wastewater

- Wastewater is discharged through the wastewater facilities for treatment such as homogenization, coagulation and sedimentation, etc. In addition to tracking the water quality data in the plant, the company also arranges for third-party notary public units to conduct regular inspections of wastewater discharges from the industrial areas in which it is located as scheduled.

Waste

- Formulated "Waste Separation, Storage and Disposal Guidelines." As per the "Waste Disposal Operator Inspection Guidelines," an "Annual Waste Disposal Operator Audit Schedule" was drawn up to perform on-site audits on a regular basis, or to follow up with the trucks from time to time for inspections of waste removal.

Transport Packaging

- In 2021, the company started to reduce the number of bottles and cans used for chemical products by switching from 4-liter drums to 20-liter drums to cut down on use, thereby decreasing the frequency of feeding and transporting, and lowering the carbon footprint generated by transport.

Green Design

- The product manufacturing process is based on the notion of green design from the source, and green products are given priority in the selection of materials. Changes are made in the length, weight, thinness, and shape of the products to cater for the customer's design requirements.

Formosa Advanced Technologies Co., Ltd.

Company Profile (Honors)

- FATC is an internationally recognized company specializing in the integration of packaging, testing and modular services.
- FATC has passed many green product and other certifications, including ISO 14001, ISO 14064-1, ISO 50001, ISO 45001, QC080000 (IECQ HSPM), ISO 9001, ISO 9002, SONY Green Partner, QS 9000, ISO/TS16949, IATF16949:2016.

Type	Public
Founded	1990
Industry	Semiconductor related
Products/Services	Semiconductor related, packaging and testing

Corporate Sustainability	Objectives
SBTi	• Joined SBTi in 2023 and submitted a carbon reduction commitment to keep warming well below 2°C by 2030. • Mid-term target (by 2030): to reduce GHG emissions in Scopes 1 and Scope 2 by 25% (against 2020), and to commit to cutting GHG emissions in Scope 3 by 12.3% in the same timeframe.
Carbon Disclosure Mechanism	• TCFD: Adopted the framework and formulated the climate-related strategies in 2021, including: short-term strategy (0-3 years): promote energy-saving programs, generate renewable energy for own use, and acquire ISO 14064 and 14067; medium-term strategy (4-10 years): build water recycling and storage tanks, look for renewable energy suppliers, and strengthen recycling; and long-term strategy (11+ years): move towards a multi-dimensional greening approach covering construction, energy, procurement, manufacturing, emissions, products, and supply chain.

Green Mark Acquisition

- ISO 14001 Environmental Management System
- ISO 14064-1:2018 Greenhouse Gas Inventories
- ISO 9001 Quality Management System
- ISO 45001 Systematic Management

IECQ QC 08000 Hazardous Substance Process Management System

Green Manufacturing

Sustainable Sourcing

- Requires upstream suppliers to comply with requirements for RoHS compliance, national occupational safety qualifications, ISO9001, ISO14001, and so on.
- Requires new suppliers or suppliers of new materials to provide MSDS, pledge not to use restricted substances, and HSF test reports per the environmental substance management procedures.
- Executes local sourcing policy.

Green Process

Energy Management

- The refrigerant side of the single refrigerator (liquefier, evaporator and refrigerant pipes) uses polarized refrigerant oil additives to remove the oil film from the metal surfaces of the refrigerant system to restore the efficiency of the refrigerator and save energy consumption by 5%-10%.

- Replaced T55 fluorescent lamps with LED tube lights factory-wide.
- Added two new water chillers in lieu of inefficient equipment with higher efficiency units.
- Retired the old models and replaced them with energy-saving, high-performing equipment.
- Secondary energy consumption is purchased steam. The price of purchased steam has risen recently due to international crude oil price fluctuations, and the company has adopted a heat recovery program to replace the use of steam to lower the consumption of steam.

Water Resource Management

- Adopts the Water Aqueduct developed by the World Resources Institute (WRI) to identify the level of water stress in each plant.
- Treats the wastewater in the wastewater treatment facility and confirms that it meets the effluent standards before discharging.

Air Pollution Management

- The main air pollution emissions are acidic and volatile organic compounds (VOCs). Acidic emissions are concentrated in the scrubber and treated to be neutral before being introduced into the activated carbon fluidized bed continuous suction and desorption equipment together with the VOCs, with an overall treatment efficiency of more than 90%.

Waste Management

- The main focus is on process waste reduction, followed by outsourcing for proper treatment to ensure that all industrial waste is legally reused or cleaned up.

Green Product

- Hazardous Substance Free (HSF): FATC has laid down a general principle for the management of environmental substances, keeping a tight rein on the sources of raw materials and related materials in line with international regulations such as RoHS, REACH and customers' needs, in order to reach the standard of green products.

Formosa Plastics Corporation

Company Profile (Honors)

- Formosa Plastics Corporation(FPC) currently operates in oil refining, petrochemicals, plastics processing, fibers, textiles, steel, electronics, automotive, machinery, land and sea transportation, and biotechnology businesses. As of the end of 2021, the company had over 100 domestic and overseas affiliates including FPC, NPC, FCFC, FPCC, and FHTS, with a workforce of over 110,000 employees, a capitalization of NT$840.2 billion, and assets valued at over NT$4 trillion.
- It is one of the world's largest manufacturers of PVC powder, plastic processing, fibers, ethylene and propylene naphtha cracking and chemicals. In terms of production capacity, the company ranks among the top three in the world in copper foil substrate, glass fiber yarn and cloth, epoxy resin, copper foil, etc. It is also the top DRAM producer in Taiwan, and has invested heavily in the development of intelligent information technology, such as remote monitoring, as well as research on eco-friendly green manufacturing processes and products.
- The company has passed many green product and other certifications, including ISO 90001, ISO14001, ISO 14064-1, ISO45001, CNS45001.

Type	Public
Founded	1954
Industry	Plastic manufacturing
Products/ Services	Oil refining, petrochemical feedstock, plastics processing, fibers, textiles, steel, electronics, steam & electricity, machinery, land and sea transport, biotechnology, etc.

Corporate Sustainability	Objectives
SBTi	• Joined SBTi in 2023 and submitted a carbon reduction commitment to keep warming well below 2°C by 2030. • Mid-term targets (by 2030): Reduce GHG emissions in Scopes 1 and 2 by 40% against the baseline year 2020, and commit to cut GHG emissions in Scope 3 from purchases of goods and services, fuel and energy-related activities, upstream transport and distribution, and investments by 11.1% against the baseline year 2021.

Corporate Sustainability	Objectives
Carbon Disclosure Mechanism	• TCFD: Joined TCFD in 2023, and integrated scenario analyses of risk management and climate impacts through TCFD's assessment of the relevance of climate change to business activities to further disclose the resilience to climate change. • CDP: Grade A (Leadership) in "Climate Change" and "Water Safety" questionnaires. • GHG inventory & management: Passed ISO 14064 Greenhouse Gas Accounting & Verification.

Green Mark Acquisition

- ISO 9001 Quality Management System
- ISO 14001 Environmental Management System
- ISO 14064 Greenhouse Gas Accounting & Verification
- ISO 45001: 2018 Occupational Safety & Health Management Standard

Green Manufacturing

Sustainable Sourcing

- In the supply chain, procurement of raw materials and equipment, the company works with suppliers to develop products for energy conservation and full recycling of waste plastics.

- FPC conducts evaluations of major suppliers of various materials, with the purchasing unit and the materials department working together to collect relevant data, including manufacturing scale, production capacity, sales amounts, and quality certificates, etc., and requires manufacturers to abide by the relevant regulations on environmental protection, occupational safety, and human rights. Meanwhile, FPC and the raw materials unit jointly set up evaluation items and scoring criteria, and conduct written and on-site factory visits to evaluate suppliers.
- Priority is given to local procurement and contracting, with overseas procurement and tendering undertaken only when local supply is not available.
- Actively promoting green procurement and signing a green procurement commitment with the city government to purchase green products such as plastic pallets, energy-saving light fixtures, and green building materials.

Green Process

Energy Management

- Installing solar panel power generation equipment and using Formosa Heavy Industries' wind power system for power generation.
- Introducing AI technology for energy saving, equipment upgrading/process optimization, and developing low energy consumption catalysts.
- Promoting coal-to-gas conversion, the retirement of old coal-fired boilers, carbon capture and reuse, and pushing low-energy hydrogen production technologies.

Water Resource Management (Water Pollution Control Management)

- Source reduction, reclamation of cooling tower discharge water, recycling of effluent water, and zero concentrated water discharge.

- To treat wastewater of different nature, FPC has built 6 wastewater treatment plants to treat organic and inorganic wastewater separately, and set up a total of 5 monitoring systems at each outfall to connect with local authorities in real time, and the results of all water quality monitoring are all better than the legal standard values.

Air Pollution Management

- FPC has established a comprehensive environmental monitoring network and purchased 6 Fourier-transform infrared spectrometers (FTIR) for air quality monitoring.
- Pollution control equipment: To improve exhaust emissions, FPC installed a regenerative incinerator at the end of the production process to reduce the production of VOCs.

Waste Management

- Cut waste through three major measures, namely, source management, process waste reduction and end-treatment, and endeavors to promote the reuse of waste and reduce the amount of landfill.
- Uses spray insulating paint instead for piping or equipment with a lower need for process insulation to reduce heat or cold insulating waste from piping or equipment overhaul.
- Introduced a new type of activated carbon recycling/regeneration system with automatic control program in place of the activated carbon adsorption system, which costs a lot for clean-up and transport.

Toxic Chemicals Management

- Developing alternatives to reduce the use of hazardous substances.
- After process R&D and improvement, the originally used toxic chemical substance DMF solvent was substituted by non-toxic chemical substance DMSO solvent; the originally used ODS refrigerants such as CFC-11/12/22 were replaced by low-hazard refrigerants such as non-toxic propylene, R134a, etc. by adjusting the refrigeration temperature of the process; the originally used heptane (public hazardous material) was replaced by low-hazard white oil (mineral oil).

Green Materials / Green Design

- The carbon fiber TAIRYFIL, developed and produced in-house, optimizes the quality of the material and supports the high-strength structure of wind turbine blades in the green energy industry with high-performance raw materials.
- FPC, together with its downstream partners, is developing functional footwear and apparel materials that are fully recyclable, lightweight, anti-bacterial, and natural, including physically foamed, fully recyclable EVA footwear, carbon fiber safety shoes, and full PP cold weather clothing.
- Developing PP toughened composites and plastic products recycled and produced that are added to PP by utilizing lignin from the paper industry's waste.
- Developing post-consumer recycled plastic (PCR) and joining hands with domestic plastic recycling system to recycle and reuse post-consumer plastics.
- Developing PP flat-yarn recycled pellets RP1040 is a joint effort with the domestic plastic recycling system to recycle post-consumer plastic, and add 30% recycled pellets by FPC for production after pelletizing.
- The polypropylene division has developed a lightweight PP environmentally friendly automotive material for use in automotive dashboards, trim panels, light housings and bumpers, which can effectively reduce vehicle weight, save energy consumption and cut GHG emissions.

Formosa Sumco Technology Corporation

Company Profile (Honors)

- Formosa Sumco Technology Corporation(FST) is a joint venture between Formosa Plastics Group and SUMCO Corp. Parent company SUMCO is the world's second largest silicon wafer producer, with 8" and 12" silicon wafers, as well as crystal pulling and wafer fabs.
- Passed many green product and other certifications, including ISO 26000, ISO 14001, ISO 14064-1, ISO 45001, TOSHMS (CNS 45001).

Type	Public
Founded	1995
Industry	Semiconductor related
Products/Services	Semiconductor related, packaging and testing

Corporate Sustainability	Objectives
SBTi	• Joined SBTi in 2022, aiming for carbon neutrality by 2050, and identifies risks and opportunities with reference to the TCFD framework, and actively promotes and execute the FST climate strategy blueprint through the "six greens" principle.
Carbon Disclosure Mechanism	• TCFD: Published the inaugural TCFD Climate Change Financial Disclosure Report in 2022, which identifies potential impacts of climate change and adaptation actions. • GHG inventory & management: In 2005, FST set up the GHG inventory promotion group to push forward the company-wide GHG emissions inventory and verification according to ISO 14064-1, and commissioned the British Standards Institution (BSI) to complete the verification of GHG emissions from 2005-2021.

Green Mark Acquisition

- ISO 14001 Environmental Management System
- ISO 14064 Greenhouse Gas Accounting and Verification
- ISO 45001 : 2018 Occupational Safety and Health Management Standard

Green Manufacturing

Sustainable Sourcing

- According to the standard and customer's requirement, raw material and packaging material suppliers are expected to furnish SDS, HSF commitment and inspection report.
- Requires upstream suppliers to observe RoHS compliance, national occupational safety qualifications, and ISO standards (key suppliers are subject to ISO 9001 certification).
- Formed a green procurement task force to actively promote the procurement of green products, including plastic pallets, toner cartridges, fluorescent lamps, which were 55 in total.
- Local sourcing and contracting is the mainstay.

Green Process

Energy Management

- Short-term goals (1-3 years): Install emission treatment equipment, mainly air pollution control facilities such as scrubbers and activated carbon adsorption systems; replace old pumps with new ones, switch lighting sources to LED tubes, and optimize the operating temperature of the power-hungry RTO heat treatment furnace.

- Medium and long-term goals (3 years+): Promote direct supply/self-installation/wheeling of renewable energy, find process energy hotspots, and continue pushing for improvements in efficient and energy-saving equipment to cut down on GHG generated by energy use in the process.

Water Resource Management (Water Pollution Control Management)

- Short-term goal (1-3 years): Develop process grinding wastewater recycling system and improve pure water system reclaimed wastewater recycling to boost water efficiency and extend the value of water resources utilization.
- Medium- to long-term goals (3 years+): Reduce water consumption per unit of product, increase process water efficiency, reduce GHG emissions, and build climate adaptation and resilience.
- Reclaim rainwater and wastewater to minimize water wastage, continuously improve water conservation, and recycle cooling water, process water and domestic water.
- Set up an independent wastewater treatment plant where acid wastewater, alkaline wastewater, and suspended solids (SS) wastewater generated from the silicon wafer manufacturing process are collected and treated in the plant's wastewater treatment facility to meet the required water quality.

Air Pollution Management

- Exhaust emission treatment equipment, mainly using scrubbers, activated carbon adsorption system and other air pollution control equipment.
- FST complies with the air pollution emission standards and adopts the optimal process technology, the optimal pollution control facilities and the perfect environmental management system according to the principle of Best Available Control Technology (BACT).
- To address ODS emissions, FST uses HFC refrigerants to prevent the ozone layer from being damaged by conventional CFCs.

Waste Management

- The company produced 11.76 tonnes of inorganic sludge, which was processed by a recycling operator and developed into ESG's green products, such as safety shoes, indoor shoes, and calcium silicate panels.
- The company promotes recycling and reuse of waste materials, and works with manufacturers to develop and produce green products to extend the value of resources.
- The company has a dedicated storage facility for all of its waste products, and has commissioned a legal operator to remove and dispose of the waste, with the goal of reducing waste generated per unit of product in the production process, further exploring the possibility of reuse, and reducing carbon emissions from incineration of waste.

Green Materials / Design for Use

- The use of new chemicals is assessed for compliance with HSF requirements through a change management review mechanism.

FSP Technology Inc.

Company Profile (Honors)

- With a global presence in Mainland China, the US, Asia and Europe, FSP is a leading manufacturer of power supplies. Since its inception, FSP has remained a total green energy solutions provider, incorporating its leading position in power supply technology to further work on the green energy sector.

Type	Public
Founded	1993
Industry	Electronic components
Products/Services	Power supplies, uninterruptible power supply systems, energy storage systems

Corporate Sustainability	Objectives
SBTi	• Reduces total GHG emissions by 4% per year on average, using 2010 as the base year, to achieve a 50% reduction in total GHG emissions by 2025. • Achieved a 40% reduction in GHG emissions on average by 2020 compared to the base year total.
RE100	Not a member of the RE100 initiative as of July 2023.
EV100/Green Transportation	Not a member of the EV100 initiative as of July 2023.

Corporate Sustainability	Objectives
Carbon Disclosure Mechanism	• TCFD：According to TCFD, a number of risk factors are identified and risk assessments are conducted through joint discussions by the CSR task force. • The FSP plants, Taiwan headquarters and Kaohsiung Branch Office use ISO 14064-1 to systematically carry out audits and inventories of GHG emissions, and to document and regularly conduct third-party verification. • Participates in its client's Carbon Disclosure Project (CDP) and regularly publishes GHG inventory data on its website each year.
Carbon Pricing	No information publicly available.

Green Mark Acquisition

80 PLUS Certification

Green Manufacturing

Responsible Sourcing

Responsible Sustainable Sourcing

- In terms of environmental management of suppliers, apart from the requirement that the raw materials and processes used must comply with the RoHS and SVHC environmental protection principles and be incorporated into the supplier management mechanism, the assessment criteria also include QC 080000, ISO 9001, ISO 14001, ISO 45001 and the Responsible Business Alliance (RBA) Code of Conduct, localization of suppliers, and corporate social responsibility, among other important indicators.
- Through the Responsible Minerals Initiative (RMI) and Conflict Minerals Reporting Template (CMRT), relevant suppliers are investigated and required to ensure that raw materials used do not give rise to conflict minerals disputes.

Green Manufacturing

Diversified Programs for Carbon Reduction

Energy Efficiency & Renewable Energy

- Phasing out high performance luminaires.
- Energy recovery in the factory aging room.
- Shutdown of computers by MIS master on time after hours.
- Replacing in-person meetings with video conferences whenever possible.
- Instructing staff to turn off lights and equipment when leaving.

Water Resource Treatment

- The wastewater is discharged into the sewer and is managed by the sewage treatment plant in the industrial area, and the results of the wastewater tests are all in conformity with local regulations.

Waste Disposal

- The company has adopted a management strategy of reducing the total volume of waste and recycling waste, turning refuse into a useful resource with recycling in lieu of the existing end-of-pipe treatment model.
- Each plant has a dedicated person responsible for waste management and regular online reporting in compliance with legal requirements.

Transport Packaging

Packaging Material Reduction

- Use of recyclable or reusable packaging materials.
- Use of packaging materials with minimal environmental impact.
- Smaller package sizes, optimized loading capacity, easy loading and transporting design with minimal environmental impact components.

Design for Use

Enhancing Product Energy Efficiency

Product R&D

- Upgrades product energy saving targets every year in the R&D phase to satisfy the CoC V Tier 2 specification for the next generation of adapters, which is expected to save 40% of no-load power consumption.
- Continues using the MIA© IC to substantially decrease power consumption in Standby mode.
- Achieved the highest efficiency level of certified 80Plus Titanium Gold PC power supplies in 2014.

Product Use

- Easy to install and operate.
- Easy to maintain and service.
- High reliability and long service life.
- Reduced energy consumption and CO_2 emissions.

End Treatment

Easy-To-Recycle, Easy-To-Disassemble Product Design

- Easy to dismantle and sort when disposed of.
- Does not cause environmental pollution when disposed of.

Fulgent Sun Group (Fulgent Sun International (Holding) Co., Ltd.,)

Company Profile (Honors)

- Fulgent Sun specializes in the manufacture of professional sports shoes and functional outdoor footwear, with factories in China, Vietnam and Cambodia, five of which are GORE-TEX certified.
- The company is mainly engaged in the OEM and R&D of hiking shoes, sports shoes, outdoor footwear and casual footwear and has a strong customer base including US-based NIKE, Under Armour, Keen, Toms, Columbia, Avia, VF Group (its North face, Vans snow boots), Timberland, French Decathlon, German Meindl, Italian La Sportiva, Salewa and other well-known brands.
- Fulgent Sun has passed many green product and other certifications, including Higg FEM, Bluesign Product, IPE, Unido, ISO 9001, ISO 45001.

Type	Public
Founded	1995
Industry	Footwear manufacturing
Products/Services	Sports shoes, running shoes, tennis shoes, basketball shoes, snowshoes, sports sandals, casual shoes, outdoor footwear, waterproof shoes, GORE- TEX shoes, etc.

Corporate Sustainability	Objectives
SBTi	• Joined SBTi in 2023.
Carbon Disclosure Mechanism	• GHG inventory & management: In the Vietnam plant, Fulgent Sun has introduced the RA system through the IPE platform and Xiangcheng to convert the GHG data. In the future, it is planned to introduce ISO14064-1 GHG Management System, at which time a baseline year will be set.

Green Mark Acquisition

- ISO 9001 Quality Management System
- ISO 45001 Systematic Management

Higg FEM

Bluesign Standard

Green Manufacturing

Sustainable Sourcing

- Suppliers are required to provide suppliers' CSR self-assessment forms, suppliers' commitment to business integrity/implementation of social responsibility, and certificates of EU RoHS, conflict minerals, and so on.
- To facilitate the sustainable and low-carbon transition of the footwear industry, Fulgent Sun has adopted a green procurement mindset in all of its factories around the world by sourcing eco-friendly, non-hazardous and non-toxic raw materials and semi-finished products, as well as by actively cooperating with local sourcing partners to localize raw material sourcing and to reduce carbon emissions from transportation.

Green Process

Energy Management

- Gradually developing renewable energy (solar PV), installing ground-source systems and replacing conventional fluorescent lighting with LED lighting.

Water Resource Management

- Water used in the plants worldwide is primarily domestic water, mainly from the tap, and wastewater is discharged directly into national/municipal sewage treatment pipelines at local operations or treated at the plant site.

Waste Management

- Adopting the mechanisms of source reduction, process reduction, and end-of-pipe recycling and disposal.
- Commissioning a licensed waste clean-up operator to remove the hazardous waste from the plant.
- Promoting the recycling and reuse of process waste (rubber and scrap) through the mechanism of waste reduction, recycling and reuse, based on the concept of circular economy.

General Interface Solution (GIS) Holding Ltd.

Company Profile (Honors)

- With years of experience in touch and display module design and manufacturing, it provides a full range of touch display technology solutions through its in-depth technology and design integration operation model.

Type	Limited by shares
Founded	2011
Industry	Touch and display manufacturing
Products/Services	Design and manufacture of touch sensors and LCD displays

Corporate Sustainability	Objectives
SBTi	• Joined SBTi in 2022 and set a Business Ambition for 1.5°C by devising a corporate carbon reduction plan for the 1.5°C global warming climate change response. GIS also committed to set SBT target.
Carbon Disclosure Mechanism	• GHG inventory & management: The Chengdu site in Mainland China had passed the GHG inventory by an external body SGS and obtained the ISO 14064-1: 2006 GHG certificate in 2019 and 2020.

Green Manufacturing

Responsible Sourcing

Responsible Sourcing

- Strictly adheres to international and industry (e.g. EICC) regulations regarding the non-acceptance and non-use of minerals from the Democratic Republic of Congo (DRC) and its surroundings that are controlled by illegal armed forces, or used to directly/indirectly finance the region.

Green Manufacturing

Energy, Water & Waste Control

Energy Management

- Chengdu Plant: In line with the 13th Five-Year Energy Saving Policy, the Chengdu Plant's energy saving target for 2020 was 4.5%, with actual energy savings of approx. 10.4 million kWh, achieving an energy saving rate of 6.83%.

Water Resource Treatment

- Wastewater treatment and control facilities were installed, regularly maintained, and tested by outsourced contractors, and a process water recycling system was set up to improve the utilization of water resources.
- Invested RMB4.2 million in a process water recycling system at the Chengdu site, which was commissioned on Jan 11, 2020, saving 137,000 tonnes of tap water annually.
- The Shenzhen and Wuxi plants use the pure water system to discharge RO concentrate water for toilet flushing, reducing water consumption by 10-15% per annum.

Waste Disposal

- The priority is recycling and reuse, followed by incineration, and if recycling is not possible and incineration is not suitable, stabilized landfilling methods.
- All industrial wastes are registered on the EPA's industrial waste reporting and management information system prior to clearance, and the disposal process is tracked and concluded within 84 hours of removal from the plant.
- Waste content testing is carried out annually in compliance with waste legislation.
- Regular on-board and on-site audits are carried out on clearance operators to ensure compliance with the relevant legislation.

GlobalWafers Co., Ltd.

Company Profile (Honors)

- GlobalWafers Co, spun off from Sino-American Silicon Products Inc, is the world's third largest and NO. 1 non-Japanese supplier of 3-inch to 12-inch specialized wafer materials, with 17 production sites in 9 countries worldwide, including Taiwan, China, the U.S., Japan, Denmark, South Korea, Italy, Malaysia, and Singapore.
- Embraces the idea of circular economy and promotes the recycling of resources. Besides the three R's (Reduce, Reuse, Recycle), the company places greater emphasis on the 4th R (Redesign), which enables product manufacturing processes to be planned in advance in the design phase to achieve the circular effects such as reduction, reuse, and recycling, and continues to improve its pollution control technology capabilities with a view to realizing the vision of environmental sustainability.

Type	Limited by shares
Founded	2011
Industry	Semiconductor manufacturing
Products/Services	R&D, design and manufacture of semiconductor ingots and wafers

Corporate Sustainability	Objectives
SBTi	• Not yet joined SBTi as of July 2023. • Adopts NDC and SBT for well-below 2°C and 1.5°C requirements as the basis for scenario analysis, and conducts financial impact assessment and continuous management and improvement for some climate change risks. • Cut GHG emissions by ≥2% in 2022 (2019 as the baseline year).

Corporate Sustainability	Objectives
RE100	• On Oct 19, 2022, the company joined RE100, a global renewable energy initiative, and pledged to use 100% renewable energy by 2050 across all of its subsidiaries. • The company continues raising the proportion of renewable energy usage by building solar power systems and purchasing renewable sources (e.g. PPAs, RECs) in parallel.
EV100	Not yet joined EV100 as of July 2023.
Carbon Disclosure Mechanism	• TCFD: Assesses the risks and opportunities of climate change for the company based on the TCFD framework, and examines and updates them annually. Discloses climate change related information based on the four core elements of governance, strategy, risk management, metrics and targets. • CDP: Continues participating in the CDP. The climate change questionnaire category was upgraded from a "C" to a "B" grade in the 2021 results; the water resources questionnaire category from a "B" grade to a "C" grade. • GHG inventory & management: Independently promoted and completed the systematic GHG emission inventory (ISO 14064-1: 2018) and inventory creation. Obtained third-party verification statements for GHG emissions in 2021, with each overseas plant independently conducting its own inventory of GHG emissions and scheduled to conclude third-party verification in 2023.
Carbon Pricing	No information publicly available.

Green Mark Acquisition

Oct 2019: Awarded the Green Factory Label by the MOEA Industrial Development Bureau.

綠色工廠 GREEN FACTORY

2021: Received a bronze of the 3rd National Enterprise Environmental Protection Award from EPA

Green Manufacturing

Responsible Sourcing

Building a resilient and sustainable supply chain

- Through localized production and local suppliers, GlobalWafers has created a regional ecosystem that significantly brings down the environmental costs of long-distance transport.
- Contracted multiple suppliers for key raw materials and invited suppliers to join the sustainable chain and produce low-carbon and green products.
- Requires suppliers to undertake due diligence on the supply chain to ensure that there are no conflict minerals in the materials they provide to the company.

Green Manufacturing

Multi-programs for carbon reduction

Carbon Emission & Energy Management

- Enhancing energy efficiency: Minimizes energy consumption through a revamp of equipment. Brought in the ISO 50001 Energy Management System to monitor and gauge major energy-using equipment, and set up action improvement plans to periodically keep track of the performance of the improvement measures.

- Purchasing carbon offset commodities: Offsetting carbon emissions by purchasing carbon trading credits.
- Carbon removal: The company supports tree-planting projects and participates in other natural solutions and conservation programs. For example, MEMC Electronic Materials S.P.A. first joined the Treedom social innovation platform and planted about 1,602 seedlings in Africa and Central and South America to absorb carbon dioxide and add greenery to the planet.

Water Resource Treatment

- Process ROR water recovery, rainwater recovery, collection and use for horticultural watering, reuse of wastewater for watering flower gardens and other related water conservation (Hsinchu and Zhunan plants in Taiwan).
- Adjusts cooling water system control parameters (conductivity, chilled water temperature), decreases the number of air-conditioning start-ups, and reclaims the cooling water system discharge water for use in the air pollution control equipment scrubber in a bid to save the amount of water discharged/replenished by the cooling water system and the amount of water lost through evaporation.

Waste Disposal

- Waste management focuses on reduction at the source, ranging from process improvement to source reduction to cut down the production of waste, followed by recovery and reuse in the factory to reduce the amount of newly purchased raw materials and to lower the creation of waste, and lastly, treatment outsourcing (including incineration, landfill, physical treatment, etc.).
- Also, by promoting ISO 14001 Environmental Management System, the company adopted the idea of product life cycle to reduce the consumption of raw materials and the production of wastes, in order to attain the goal of sustainable operation and environmental protection.

Transport Packaging

Use of Recycled Raw Materials

- Each plant uses recycled raw materials as much as possible, depending on the characteristics of the manufacturing process. Recycled raw materials used in each plant worldwide include silicon raw materials, cutting fluids (carriers), product packaging cartons, and wafer cassettes.
- From April 2021, the Danish plant started using silica tablet packaging, effectively cutting the use of plastic by 100% and other packaging materials by 50%.

Design for Use

- The main raw material used in the production is silicon, and in the crystal growth stage, the company uses recycled top and tail ends of waste wafers as much as possible, which not only saves the cost of purchasing materials, but also cuts down on the production of waste.

Hon Hai Precision Industry Co., Ltd.

Company Profile (Honors)

- Hon Hai is the world's No. 1 EMS provider with a market share of over 40%, covering four major product segments: consumer electronics, cloud networking, computer terminals, components and others.
- Hon Hai has long been committed to fulfilling the concept of "Sustainability = EPS + ESG" and has been awarded the GCSA for its contribution to epidemic control, the Global Corporate Sustainability Report Bronze Award, the TCSA Corporate Social Responsibility Report Platinum Award, and three leadership awards

Type	Public
Founded	1974
Industry	Electronics, consumer components, system assembly, optical communication components
Products/Services	Electronic manufacturing services, consumer electronics, cloud networking products, computer terminals, components

Corporate Sustainability	Objectives
SBTi	• Submitted 1.5°C carbon reduction pledge to SBTi in Jan 2021, expected to be validated and approved by the SBTi targets by 2023. Hon Hai also set Business Ambition for 1.5°C.
RE100	• Not a member of the RE100 initiative as of July 2023. • Signed a green power purchase MOU with Foxwell Power Co., Ltd., a subsidiary of Shinfox Energy Co., Ltd., to purchase 2.36 million kWh of green power from its Taiwan plant, and aims to increase the amount of green power purchased each year to reach 70 million kWh by 2030.

Corporate Sustainability	Objectives
EV100	• Not a member of the EV100 initiative as of July 2023. • Foxtron Vehicle Technologies Co., Ltd., a subsidiary of Hon Hai, has developed in-house electric bus MODEL T, which will be added to the bus routes in Kaohsiung's 24 districts to create a green intelligent transportation ecosystem.
Carbon Disclosure Mechanism	• TCFD: Adopting TCFD in 2021, the company has used TCFD to assess the relevance of climate change to business activities and to integrate risk management with situational analysis of climate impacts to further expose the resilience to climate change. • GHG inventory & management: 88 suppliers were advised and motivated to complete GHG inventory, 58 of which completed ISO 14064-1 certification.
Carbon Pricing	No information publicly available.

Green Mark Acquisition

Hengyang plant in Mainland China passed Zero Waste To Landfill audit and was awarded UL 2799 Platinum certification

Hengyang plant received RBA Factory Of Choice One Star label

Green Manufacturing

Responsible Sourcing

- Develops long-term and effective partnerships with suppliers to ensure that they jointly fulfil their corporate social responsibility through ESG risk assessment and audit verification.
- Strengthens the resilience of suppliers and manages their joint growth projects to create a sustainable supply chain.
- Requires chemical suppliers to provide true and accurate safety information such as safety technical specifications and to submit chemical spectrum analysis reports.
- Suppliers should set corporate GHG emission reduction targets and should track, record and publicly report energy consumption and all associated Scopes 1 and 2 GHG emissions against their GHG reduction targets.

Green Manufacturing

Diversified Programs for Carbon Reduction

Carbon Emissions & Energy Management

- Improves international cooperation to enhance access to clean energy and technologies, including renewable energy, energy efficiency, more advanced and cleaner fossil fuel technologies, and to promote investment in energy infrastructure and clean energy technologies.
- Increases the capacity of rooftop and ground-mounted solar power installations through self-construction, acquisition, and directly purchases other clean energy sources.
- Achieves sustainable management and efficient use of natural resources.
- Complies with the relevant regulations of international organizations and industries and does not accept and use "conflict minerals" from the Democratic Republic of Congo and its surrounding countries and territories.
- Has its projects audited and reviewed annually by the energy conservation and carbon reduction division for compliance with its energy saving and carbon reduction targets.

Water Resource Treatment

- Optimizes the production process to reduce the use of water resources.
- Actively implements wastewater recycling projects to reuse treated domestic sewage in production processes and environmental greening.
- Set up wastewater treatment facilities at each plant and has dedicated staff to regularly inspect and maintain them to ensure that the wastewater meets the discharge standards.
- Suppliers should carry out water management plans to record, classify and monitor water resources, their use and discharge, and seek to protect water resources and control pollution channels.

Waste Disposal

- Promotes zero waste to landfill at key sites in Mainland China and gradually reduces waste incineration and landfill to ensure compliance with the waste conversion rate of 100% and incineration rate of 10% at the upper limit.
- Has a waste management unit at each site to co-ordinate the day-to-day management and calculation of all types of waste, and to assist with waste reduction and recycling campaigns.
- Conducts regular audits of waste clearance operators.

Transport Packaging

Recycling for a Circular Economy

- Dedicated to the recycling of internal and external packaging materials, in order to continuously improve the recycling and reuse of waste materials.
- Product design for a circular economy, green packaging and material recycling.
- Reduces material consumption, chooses biodegradable and renewable materials.

Design for Use

- Develops design to raise energy efficiency and uses new technologies to reduce energy consumption.
- Cuts waste significantly through prevention, reduction, recycling and reuse.

HOSEA Precision Co., Ltd.

Company Profile (Honors)

- HOSEA specializes in the manufacture of high precision CNC 5-axis rotary tables, and is the first AS 9100 Aerospace Quality Management System certified rotary table maker in Taiwan and the largest 5-axis rotary table supplier in Taiwan, and the company has been certified by the ISO 9001:2015 Quality Management System.

Type	Limited by shares
Founded	2008
Industry	Metal related manufacturing
Products/Services	CNC Rotary Table (4th Axis, 5th Axis)

Corporate Sustainability	Objectives
SBTi	• Joined SBTi in 2023 and set mid and long-term targets. – Mid-term targets (by 2030): Reduce GHG emissions in Scopes 1 and 2 by 42% against the baseline year of 2021, and measure and reduce emissions in Scope 3. – Long-term targets (by 2050): Reduce GHG emissions in Scopes 1 to 3 by 90% against the baseline year of 2021 and reach net zero.
Carbon Disclosure Mechanism	No information publicly available.

HTC Corporation

Company Profile (Honors)

- HTC is a multinational consumer electronics company based in Taiwan that develops and manufactures smartphones and VR devices, and is the world's second-largest manufacturer of VR head-mounted displays.
- Received green awards including the 2022 EcoVadis Silver Award for Sustainability, the MOI Green Building Label for Taipei office, and Leadership in Energy and Environmental Design (LEED) Gold Certification from the U.S. Green Building Council (USGBC).
- Its products have passed many green certifications, including ISO 14064-1, ISO 14067, ISO 50001, ISO 14001, QC 080000, ISO 45001, ISO 27001, ISO 27701, ISO 27799, AA1000AS.

Type	Public
Founded	1997
Industry	Information technology
Products/Services	Consumer electronics, communication devices (smartphones, VR devices, blockchain, healthcare, etc.)

Corporate Sustainability	Objectives
SBTi	• Joined SBTi in 2023, the targets by 2050 include: reduce electricity consumption (carbon emissions) by 5-8%; water recycling rate of 75%; and waste recycling rate of 80%.
Carbon Disclosure Mechanism	• TCFD: Joined TCFD in 2021, and integrated scenario analyses of risk management and climate impacts through TCFD's assessment of the relevance of climate change to business activities to further disclose the resilience to climate change. • CDP: Grade B (Management) in the Climate Change Questionnaire and Grade B (Leadership) in the Supply Chain Engagement Rating (SER).

Green Mark Acquisition

- ISO 14064 Greenhouse Gas Accounting & Verification
- ISO 14067 Carbon Footprint Accounting Standards
- ISO 50001 Energy Management Systems
- ISO 14001 Environmental Management System
- ISO 45001 : 2018 Occupational Safety & Health Management Standard

IECQ QC 08000
Hazardous Substance
Process Management
System

Green Manufacturing

Sustainable Sourcing

- Prioritizing the procurement of equipment with energy and water saving labels or with energy and water saving functions, and conducting supplier audits as per the RBA Code of Conduct and the HTC checklist.
- Building a green supply chain management platform and selecting green raw materials that meet international regulations and customer requirements.
- Incorporating the issue of conflict minerals into procurement contracts, supplier code of conduct, terms and conditions of purchase orders, and supplier social responsibility audits; supporting conflict-free smelters; and committing not to use conflict minerals and not to accept primary minerals from the DRC and neighboring conflict countries in the Central African region.

Green Process

Energy Management

- Replacing the metal tile sheets on the roof of the newly constructed factory parking shed with solar panels, installing a solar power generation system, and integrating the wholesaled electricity into the power supply system of Taipower through the interior parallel connection method.
- Continuously using green energy, including the use of solar panels, heat pump systems and other low-pollution energy sources and equipment, and improving the management of energy-saving programs through building lighting, air-conditioning equipment, etc.
- Adjusting the inspection frequency according to the risk of each material's quality, reducing the use time of the equipment, saving 30% of electricity consumption, 30% of aluminum trays and extending the life of X-Ray tubes by 35% per year.

Water Resource Management (Water Pollution Control Management)

- HTC operates, maintains and inspects the wastewater treatment system on a daily basis per the "Sewage Treatment System Operation, Maintenance and Repair Regulations," and regularly commissions a company recognized by the EPA to test the wastewater every six months and report it online as required by law. HTC has instituted operational controls and monitoring of wastewater collection, conveyance and treatment facilities to promote wastewater reduction, and has established a database of VOC fingerprints.
- HTC continues to formulate and implement a water conservation management plan for domestic sewage, and annually reviews the results and evaluates whether to adjust the target, with a cumulative total of 1,141,662 tonnes of reclaimed water for watering from 2014 to 2021.
- HTC has built a rainwater reclamation system and reuses it for toilet flushing and planting watering.

Toxic Chemicals Management (Hazardous Substances Management)

- HTC established the IP-0000106-1 Hazardous Substance Management List and holds regular supplier meetings, with the company's hazardous substance policy integrated with green supply chain management, and seeks to use non-toxic materials together with component suppliers. During product development, HTC sends the related parts and materials to ISO 17025 accredited laboratories, such as SGS and TUV, to ensure that the materials used in the products conform to the international environmental standards.
- The components, modules, and materials used in HTC are all in compliance with the company's Restricted Substances Control List, which not only covers the 10 substances under the EU RoHS, but also includes items controlled by international environmental laws and regulations as well as those of our international customers, and do not produce pollutant gases or wastes that would have an impact on the environment and ecology during the production process.
- HTC imposed a total ban on four chemical substances, namely n-hexane, n-heptane, benzene and toluene.

Waste Management

- Putting up recycling bins, outsourcing manual separation of domestic waste, implementing proper waste disposal, and commissioning legal waste clean-up and disposal vendors.
- Recovering all waste batteries, lamps and information facilities.

Transport Packaging

- Cutting down on the use of ink printing, adopting a minimalist monochrome presentation, using materials with a higher recycling ratio on the outer box, and decreasing the use of plastics in the inner packaging.
- Product design geared towards the circular economy, recycling and reducing material consumption by choosing biodegradable and renewable materials.
- Adopting optimal pallet stacking to reduce carbon footprint.

Design for Use

- HTC products undergo chemical analysis by an international third-party verification company to ensure that they are free of heavy metals, brominated flame retardants and plasticizers in accordance with the EU RoHS Directive.
- Minimizing waste through prevention, reduction, recycling and reuse.

Hwa Meei Optical Co., Ltd.

Company Profile (Honors)

- Starting out as a sunglasses OEM, Hwa Meei Optical has moved into the development of sports and functional eyewear and has been working on new technologies for decades, and is now one of the world's leading professional sports eyewear manufacturers.
- Hwa Meei Optical is now ISO 9001 and ISO 14001 certified and has become a trusted sports vision specialist in compliance with international standards.

Type	Limited by shares
Founded	1978
Industry	Optical eyewear manufacturing
Products/Services	Optical eyewear

Corporate Sustainability	Objectives
SBTi	• By joining SBTi in 2020, it aims to achieve progressive carbon reduction targets over a 10-year period in line with SBTi guidelines, including sourcing low-carbon raw materials, improving manufacturing processes to reduce plastic waste, installing solar plants, purchasing green electricity, etc. Set climate target 1.5°C by 2029. • The company has pledged to reduce Scope 1 and 2 GHG emissions by 42% by 2029, using 2019 as a base year, and to reduce Scope 3 emissions by 25% over the same period from goods and services procurement, capital goods and fuel and energy-related activities.

Green Manufacturing

Green Manufacturing

Green Processes

- In 2021, a solar power generation unit with an installed capacity of 254.43kWp was erected.
- Hwa Meei Optical commissioned professional engineers to build a wastewater treatment plant to discharge the wastewater generated from the production process in compliance with the industrial wastewater treatment process.

Design for Use

Recycled Glasses from Waste

- The nylon particles produced from the reprocessing of discarded fishing nets are re-produced into marine recycled glasses.
- Improving the manufacturing process, raising the yield and reducing the quantity of rejects in the process. Now 83% of each kg of raw material can be turned into products.
- The product is environmentally friendly and free from secondary contamination by reducing surface treatment and painting processes.

Innolux Corporation

Company Profile (Honors)

- Innolux has a strong presence in Taiwan and Mainland China and was named to the Dow Jones Sustainability DJSI World Index and the DJSI Emerging Market Index for the third consecutive year in 2020.

Type	Limited by shares
Founded	2003
Industry	Optoelectronics
Products/Services	LCD panels

Corporate Sustainability	Objectives
SBTi	• The Science Based Targets initiative (SBTi) review was approved with target of well below 2°C by 2026. • Based on an emission intensity of 0.0129 t CO_2/m^2 per unit area of TFT process FCs (fluorinated GHG) in 2016, a 49% reduction is targeted by 2025. 39.5% reduction in FCs has already been achieved in 2020.
RE100	• Not a member of the RE100 initiative as of July 2023. • In 2018, it introduced biogas for power generation, using the biogas generated from the sewage treatment system to produce electricity through a biogas generator, generating a cumulative total of 2.8 million kWh of electricity and cutting carbon emissions by approx. 1,400 tonnes. • Aims to reduce carbon emissions from the process by installing its renewable energy generation facilities, leasing land for electricity, lease purchase and purchase of renewable electricity and certificates. • Plans to participate in international initiatives and commits to generating 60 million kWh per year from renewable energy installations by 2025 for in-house use.

Corporate Sustainability	Objectives
EV100	• Not a member of the EV100 initiative as of July 2023. • Promotes green transport services, including inter-plant green shuttles and electric vehicles for security patrols.
Carbon Disclosure Mechanism	• Innolux established the Carbon Risk Management Committee in 2021 as a catalyst to develop and implement the company's carbon reduction targets in response to net zero carbon emissions. • TCFD：The company has adopted the TCFD framework from 2020 onwards in order to keep an eye on the impact of climate change on Innolux's operations and to transparently disclose relevant assessments to the public. • GHG inventory & management: The GHG inventory data is third party verified to ISO 14064-1.
Carbon Pricing	• Innolux's internal carbon pricing (ICP) is managed, adjusted and updated regularly on a rolling basis in line with the company's action plan for short/mid/long term GHG reduction targets. • Carbon pricing will be applied in two ways, as a low carbon investment assessment tool and as a carbon risk management review tool for specific investments, whereby the operating carbon cost of an investment will be estimated based on the GHG emissions derived from the investment to gauge the overall need and benefit of the investment.

Green Mark Acquisition

Taiwan Corporate Sustainability Awards (TCSA)

National Enterprise Environmental Protection Award Silver Class

CDP Supply Chain Engagement Rating Grade A

CDP
SUPPLIER
ENGAGEMENT
LEADER
2020

Green Manufacturing

Responsible Sourcing

Local Sustainable Sourcing

- Since 2012, Innolux has been promoting low carbon green supply chain management through the "DCIR" strategy, and has been working on ongoing supply chain carbon reduction improvement based on carbon disclosure, carbon contribution, carbon intensity and carbon reduction.
- In 2021, it completed a total of 124 suppliers' GHG inventories, resulting in a real carbon reduction of approx.151,107 tonnes.

Green Manufacturing

Diversified Programs for Carbon Reduction

Energy Efficiency & Renewable Energy

- By introducing the ISO 50001 management system, it has achieved 28.46 million kWh of electricity savings and approx. 14,500 t of CO_2 carbon reduction in 2021 through energy consumption analysis and energy saving actions.
- In 2018, it introduced the Biogas Power Generation Facility, which uses the large amount of methane gas produced from the anaerobic biological treatment unit of the sewage system as fuel to generate electricity, producing over 868,000 kWh of electricity per year and reducing 462 t CO_2e at the same time.

Water Resource Treatment

- A process water recovery rate of 96.2% by 2020, with up to 290 million t/y of process water recycled.
- Water savings of 1.4 million t by 2020 and the interim target set in 2018 of achieving a 20% reduction in water use per unit of output area by 2020 (based on 2016) had been achieved.

Waste Disposal

- Innolux built and operated a large-scale recovery system for thinners in 2020, which not only increases the recovery rate, but also overcomes the multi-component solvent characteristics and improves the thinner purity to over 99% electronic grade.

Transport Packaging

Partnering with Suppliers to Adopt Green Packaging Materials

- Innolux controls the movement of inbound and outbound containers through its container management platform, reducing approx. 387,394 km of transportation and carbon emissions by approx. 4.03 million tonnes in 2021.
- Innolux has arranged to replace air freight with low-carbon sea freight. In 2020, it transferred about 300 containers of air freight to sea freight by introducing fast ships, such as the Natchan Rera and Taipei Express which operated point-to-point across the Taiwan Strait.
- Upstream suppliers' recycling of packaging materials is managed through the procurement process to improve the recycling rate, and the recycling of related packaging materials is negotiated with the downstream customers to reduce waste together with the upstream and downstream production chain. In 2020, the recycling rate for DSPK Boxes stood at 66.9%, for Hard Boxes at 49.2% and for PP Boxes at 45.4%.
- Packaging optimization: Reducing the use of cushioning materials and shrinking packaging size.

Design for Use

Increasing Product Energy Efficiency

- The multi-functional optical film is introduced to eliminate the upper diffuser design to achieve thinness and material saving.
- Development of high brightness and low power consumption for cellular phones.

End Treatment

Easy-to-Recycle & Easy-to-Dismantle Product Design

- The LCD panel extraction and recycling technology and the automated panel LCD recycling center enable the complete separation of the LCD panel glass from the LCD and the removal of impurities from the extracted LCD for reuse in the manufacturing process.
- Innolux's extraction line is capable of treating 3,000 tonnes of waste LCD panels per year and the extraction center treated a total of 1,000 tonnes of waste LCD glass in 2020.

JD Components Co., Ltd.

Company Profile (Honors)

- JD specializes in the manufacture of bicycles, high-grade aluminum frames and parts, and has been named one of the top eight outstanding enterprises in the nation. It is a well-known kick scooter manufacturer in the industry, and also extends its business to the manufacture of eco-friendly and high-efficiency electric kick scooters.

Type	Limited by shares
Founded	1986
Industry	Bicycle and parts manufacturing
Products/Services	e-bike / toys / sporting goods / electric vehicles / bicycle parts

Corporate Sustainability	Objectives
SBTi	• Joined SBTi in 2023 and submitted a carbon reduction commitment to keep warming within 1.5°C by 2030. • Medium-term targets (by 2030): Reduce GHG emissions in Scopes 1 and 2 by 42% by 2030 from the baseline year of 2021, and pledge to cut GHG emissions in Scope 3 by 25% within the same timeframe.
Carbon Disclosure Mechanism	No information publicly available.

LITE-ON Technology Corp.

Company Profile (Honors)

- As the first publicly traded company in Taiwan, LITE-ON is a global leader in opto-electronic components and critical electronic modules for a wide range of applications in cloud computing, automotive electronics, opto-semiconductors, 5G, AIoT, ICT and consumer electronics, optimizing and managing resources across a diverse product portfolio.
- The company has been named a constituent of the DJSI for 10 straight years; continues to be named a constituent of the FTSE4Good Emerging Indexes/ Taiwan Sustainability Index; was selected for multiple awards in the 2020 Taiwan Corporate Sustainability Awards (TCSA); and has received the highest level in the Carbon Disclosure Project (CDP) Supply Chain Engagement rating.

Type	Limited by shares
Founded	1975
Industry	Electronics & computer peripherals
Products/Services	Optoelectronic products, information technology, storage devices, handheld devices

Corporate Sustainability	Objectives
SBTi	• Passed SBTi validation in April 2019, with climate target of 2°C by 2025. • It aims to achieve a 39.3% reduction in carbon emissions per unit of revenue by 2025 (base year 2014) and a cumulative reduction of 2 million tonnes in GHG Scope 3 emissions by 2030.
RE100	• Not a member of the RE100 initiative as of July 2023. • Enterprises set targets for the use of renewable energy and increase the amount of renewable energy used each year.

Corporate Sustainability	Objectives
EV100	• Not a member of the EV100 initiative as of July 2023. • Additional charging piles are being added to the headquarters, and vehicles for business use will be purchased and replaced with electric vehicles on an annual basis.
Carbon Disclosure Mechanism	• TCFD: In 2017, it committed to support the Task Force on Climate-Related Financial Disclosures (TCFD), to disclose information on climate change and the risks and opportunities it presents by following the framework of the Climate Related Financial Disclosures Proposal. • (TCFD) GHG inventory & management: Since 2008, it has continued performing Scopes 1 and 2 GHG inventories and obtained ISO 14064 certification; 2 since 2009, it has extended the scope of the inventory to include Scope 3 items; in 2018, it conducted a full inventory, validation and disclosure of Scope 3 Category 15.
Carbon Pricing	• The carbon price at its two main business locations in Taiwan and Mainland China is US$50/t CO_2 equivalent and US$8/t CO_2 equivalent respectively. • It levied an internal carbon tax at a rate of US$1/t CO_2 equivalent from 2021 onwards on business entities that exceed their annual carbon credits.

Green Mark Acquisition

Taiwan Energy Label

Energy Star

EPEAT Green Label

Mainland China Environmental Label

Green Manufacturing

Responsible Sourcing

Local & Responsible Sourcing

- Declares and commits to not accepting metal from substandard smelters in the Conflict Zone and requires suppliers to comply with the LITE-ON Responsible Minerals/Metal Sourcing Policy.
- Increases the proportion of local sourcing, with both direct and local sourcing increasing by 3.53% and 3.87% respectively in 2020 compared to 2019.

Green Manufacturing

Multi-faceted Energy Saving & Carbon Reduction

Energy Management

- In 2020, LITE-ON Electronics and LITE-ON Power Technology Dongguan production sites obtained ISO 50001 energy management certification, making a total of 6 production sites with ISO 50001 certification.
- Actively seeking suitable renewable energy providers to sign green power purchase agreements or community renewable energy power plants by installing rooftop solar power systems and purchasing international renewable energy certificates. In 2020, the amount of renewable energy used for self-generation/use and the procurement of renewable energy certificates has reached 57,097 MWh, accounting for 16.53% of total electricity consumption.
- Launched the Burn-In ERS Saving Energy project to introduce the Energy Recovery Systems (ERS) in Dongguan, Guangzhou and Changzhou to recycle the power consumption of Burn-In products after aging and testing, which is estimated to reduce electricity usage by 5.8 million kWh per year, equivalent to 4,853 t of carbon emissions per year.

Water Resource Treatment

- Water resources management is based on the ISO 14001 management system.
- Continuously promotes water conservation measures, such as the replacement and renewal of old pipelines, water switching inspections and water usage patrols, and increases water recycling and reuse measures.
- Additional water reuse measures, such as the recycling of condensate from air-conditioning and concentrated RO water, and the recycling of pure water from workshop equipment, resulted in a total of 170,997 metric tonnes of water being recycled in 2020, an increase of 1.35 times compared to 2019.

Waste Disposal

- The company aims to achieve a 12% reduction in waste intensity and an absolute reduction of 3,300 tonnes of waste by 2025.
- It has set up a dedicated management unit in accordance with ISO14001 management procedures to effectively control the amount of waste generated from sources and to continuously promote green product design and waste management measures.
- A qualified waste clearance operator is appointed to carry out incineration or reuse treatment and regular audits are carried out to ensure proper disposal.

Transport Packaging

Packaging Material Reduction to Improve Transport Efficiency

- The company aims to reduce plastic packaging materials by 20% by 2025.
- Works with suppliers to reuse pallets of a specific specification, material and appearance in good condition for shipping or for turnaround, reducing the amount of waste pallets by more than 1/2 (approx. 4 tonnes).
- Improved packaging design for road lighting products has resulted in a reduction of 27% in cartons and 49 tonnes of EPE use, bringing the cumulative carbon reduction in 2020 shipments to 167.98 tonnes of CO_2e.

- LED energy saving street light packaging cartons are made with over 95% recycled pulp, resulting in a cumulative carbon reduction of 593.6 tonnes of CO_2e based on 2020 shipments.
- The plastic packaging of products in the machine casing category was reduced by using a lower density EPE package, resulting in a reduction of 382.2 mt of CO_2e.

Design for Use

R&D of Green Energy Saving Products

- The energy conversion efficiency of power supply products improved by 4.56% compared to 2016.
- The server's power supply products use AC digital detection IC function integration technology to reduce the power consumption of digital detection IC operation; the cumulative power saving from shipment reached 42.89MWh, while reducing power consumption by more than 21.83 mt of CO_2e.
- UV-LED energy efficiency has improved by 25% compared to 2018, resulting in electricity savings of 1.94 GWh and carbon savings of approx. 988 mt of CO_2e based on application-side product life and usage scenarios.
- Proactive product carbon footprint inventories are completed for the company's key products, with the inventory and quantification methods based on ISO 14067:2018 standards.

End Treatment

Improving Product Recycling to Reduce Waste

- LED energy saving street light products are better than the WEEE directive, with a Reuse and Recycling ratio of over 98% and a Recovery ratio of over 99%, significantly reducing the amount of waste generated after the products have been disposed of.

Long Way Enterprise Co., Ltd.

Company Profile (Honors)

- Long Way is an enterprise specializing in the manufacture of sports related equipment and devices. The company produces sports protection products for world famous brands such as Adidas, Reebok, Puma, Salomo, etc., which are sold in Europe and America.
- Long Way produces balls that do not contain toluene, formaldehyde and other harmful substances on the surface, marking the world's first water-based, eco-friendly footballs, and has been the designated ball supplier for four consecutive World Football Championships.

Type	Limited by shares
Founded	1975
Industry	Manufacturing/trading of sports and entertainment products
Products/Services	Sporting goods related gadgets and equipment

Corporate Sustainability	Objectives
SBTi	• Joined SBTi in 2022.

Merry Electronics Co., Ltd.

Company Profile (Honors)

- With a global presence in Mainland China, Thailand, Vietnam, USA, Singapore, Canada and Norway, Merry is committed to achieving net zero carbon emissions by 2050 in response to international net zero targets.
- In addition to setting aggressive carbon reduction targets, Merry has joined RE100 in 2021 with a pledge to achieve 100% renewable energy use by 2050, with the priority of lowering energy carbon emissions and using renewable energy, while incorporating the concept of environmental sustainability into product design and development to improve the efficiency of environmental resource use.

Type	Limited by shares
Founded	1975
Industry	Electroacoustic
Products/Services	Headphones, speaker components, microphone components, battery products and hearing care products

Corporate Sustainability	Objectives
SBTi	• Not a member of the SBTi initiative as of July 2023. • Merry is targeting a 2% annual reduction in carbon intensity and 7.5% energy savings by 2025 compared to the previous year, using 2020 as the base year. • Merry is targeting a 2% annual reduction in carbon intensity and 15% energy savings by 2030 compared to the previous year, using 2020 as the base year.
RE100	• In 2021, the company announced that it had joined RE100, making it the first electroacoustic company in Taiwan to have done so, and committed to achieving a target of 100% renewable energy usage by 2050. • It is expected to achieve a 60% share of renewable energy in total corporate energy use from 2030 onwards, with a target of 90% by 2040 and 100% by 2050.

Corporate Sustainability	Objectives
EV100	• Not a member of the EV100 initiative in July 2023. • Strengthen the local supply chain to lessen the environmental impact of transporting raw materials and components, and prioritize local suppliers in production sites.
Carbon Disclosure Mechanism	• TCFD: In 2020, Merry adopted the TCFD disclosure framework, which introduced a management framework based on four key aspects: governance, strategy, risk management, indicators and targets, to take stock of the current state of management of climate change risks and opportunities and assess the potential financial impact. • GHG inventory & management: Taiwan head office and Merry Shenzhen are in compliance with ISO 14064-1 for GHG emissions every year.
Carbon Pricing	No information publicly available.

Green Manufacturing

Responsible Sourcing

Local Sustainable Sourcing

- Merry's sourcing policy gives priority to local suppliers in its business locations in order to mitigate the environmental impact of transporting raw materials and components.
- In 2020, the proportion of suppliers (excluding electronics) sourcing locally in Mainland China reached 93% and the proportion of local sourcing value reached 98%.
- Declares and commits to not accepting the use of metals from conflict mines and continues to require suppliers to fully disclose whether metals used in product materials are from qualified mines on an annual basis through the GPMS survey.

Green Manufacturing

Declaring 100% Green Power Commitment to Improve Energy Efficiency and Reduce Carbon

Energy Efficiency & Renewable Energy

- Since 2016, Taiwan headquarters has adopted the ISO 50001 energy management system and carried out various energy-saving and carbon-reducing measures in a systematic manner, continuously upgrading energy-saving equipment, including replacing central air-conditioning systems, building heat and cooling exchange systems and switching to LED energy-saving lamps.
- Introduced automated equipment to optimize its manufacturing processes to boost energy efficiency.
- Manages energy savings by compiling energy usage statistics based on energy performance indicators and energy baseline monitoring tables.
- Suppliers are being asked to promote green supply chains in response to climate change issues related to energy management, water management and renewable energy use.
- In response to RE100, a global renewable energy initiative led by The Climate Group and the Carbon Disclosure Project (CDP), the company has set out a commitment and timeline to achieve 100% green electricity use between 2021 and 2050.

Water Resource Treatment

- Merry mainly produces sewage from its employees' daily operations. The water resource management at its headquarters in Taiwan pays attention to the awareness of water conservation among employees and improvement of facilities, actively advancing water conservation measures and conducting monthly abnormality analysis to enhance the efficiency of water resource usage.
- Merry Shenzhen has formulated the "Wastewater Treatment Control Regulations" to prevent water pollution, reduce domestic water consumption and recycle waste water.

Waste Disposal

- With the objective of waste reduction, recycling and reuse to achieve efficient use of resources, the company has established waste management procedures and waste management methods, which are incorporated into the ISO 14001 environmental management system for control.

Transport Packaging

Packaging Materials with Reduced Plastics and Volumes

- Complies with the EU Packaging and Packaging Waste Directive (PPWD).
- Minimizes the use of packaging/packaging materials or reduces the carbon footprint of transport during the operations or logistics process, including warehousing, transport, packaging, distribution, etc.
- Carbon reduction packaging innovations for 2020 included a change from plastic clamshells to corrugated partitions, a reduction in material usage by printing the instruction booklet on the inside of the box lid, and an overall optimization to reduce the size of the carton and improve transport efficiency.

Design for Use

Increasing Product Energy Efficiency

- The sustainable design of products is enhanced by optimizing product construction to reduce energy consumption and the use of recycled materials.
- The sustainable design in 2020 included a 10% smaller overall external diameter for the new Bluetooth headset and an increase in battery life from 6.5 hours to 8.6 hours for the same battery capacity. The 1000Whr energy storage system is internally tested to outperform the industry's charge/discharge conversion efficiency by 0.9-3.9%. The gaming headset uses 12% post-consumer recycled plastic for the outer casing.

Nan Ya PCB Co., Ltd.

南亞電路板股份有限公司
NAN YA PRINTED CIRCUIT BOARD CORPORATION

Company Profile (Honors)

- Nan Ya PCB Co, spun off from the Nan Ya Plastics Corp PCB Division in 1997, is dedicated to the production, manufacture and R&D of printed circuit boards (PCB) and IC substrates.
- Nan Ya PCB serves 5 continents, with its headquarters located in Taipei City, Taiwan, and manufacturing plants primarily situated in Taiwan, including the Luzhu District of Taoyuan City (Jinxing Plant), the Shulin District of New Taipei City (Shulin Plant), and in China (Kunshan Plant), with a workforce of 6,875.

Type	Public
Founded	1997
Industry	Electronics-related manufacturing
Products/Services	Manufacture and sale of ABF substrates and PP substrates, conventional PCBs, high-density interconnect (HDI) boards

Corporate Sustainability	Objectives
SBTi	• Joined in April 2023, committed to reducing absolute GHG emissions in Scopes 1 and Scope 2 by 25% by 2030, using 2020 as the baseline year; also committed to cutting Scope 3 GHG emissions by 12.3% over the same timeframe.
RE100	• Not yet joined RE100 as of July 2023. • Planned to install solar power facilities in Shulin Plant No. 1 in 2022. • Purchased green power (wind power, photovoltaic power) in 2023.

Corporate Sustainability	Objectives
EV100	• Not yet joined EV100 as of July 2023. • Nan Ya PCB is actively involved in the R&D of products related to the EV industry, such as PCBs/ carriers for EV peripheral products.
Carbon Disclosure Mechanism	• TCFD: Published the company's TCFD Report in July 2022 to disclose information about Nan Ya PCB's governance, strategy, risk management, metrics and targets for climate-related risks and opportunities. Set absolute GHG reduction targets, with a baseline year of 2020, a start date of 2021, and a target year of 2030, to reduce GHG emissions by 25% over a 10-year period. • CDP: Maintained the "Leadership" rating in the CDP Climate Change Questionnaire for 2022. • GHG inventory & management: According to the ISO14064-1:2018 standard, the company conducts regular inventories of Scope 1, 2 and 3 emissions, and carries out energy-saving projects by analyzing the hot spots of carbon emissions.
Carbon Pricing	No information publicly available.

Green Mark Acquisition

- ISO 9001 Quality Management System
- ISO 14001 Environmental Management System
- ISO 45001:2018 Occupational Safety and Health Management Standard
- ISO 14064-1:2018 Greenhouse Gas Inventories - Organizational Levels

Green Manufacturing

Sustainable Sourcing

- Purchases green raw materials and energy-saving supplies, and seeks to reduce resource consumption and increase recycling.
- Steps up the verification of raw material supply to prevent the infiltration of conflict materials into the production process.
- Purchases products from local suppliers, in addition to imported raw materials specified by customers, to cut down on carbon footprints caused by product transport.
- Requires suppliers of raw materials to provide undertakings that their products do not contain environmentally hazardous substances and to submit annual test reports to ensure that their products meet the requirements of customers and related laws and regulations.

Green Manufacturing

Multi-programs for carbon reduction

Carbon Emissions & Energy Management

- Improves the recycling of wastewater produced in the manufacturing process, promotes energy-saving programs, and reduces the use of energy and water by using a cleaner production process.
- Promotes energy saving and improvement: Set up a carbon emission reduction promotion organization to push each unit to review and improve the efficiency of energy use, and hold monthly energy management meetings for tracking.
- Uses renewable energy, installs solar power facilities, and purchases green power (wind power and PV power).

Water Resource Management

- Continues to promote process water conservation and recycling at the source of the process, and also plans to reuse cleaning water in the process line.
- Directly replenishes the water of each plant and the clean water tank of the pure water field, reducing the amount of raw water used.
- Effectively treats wastewater and recycles it at the back-end for purification purposes.

Waste Management

- Contracted qualified domestic waste removal operators to transport all industrial wastes to commissioned qualified waste treatment plants for disposal; regularly follows up with the trucks to ensure proper clean-up of waste.
- Continuously compiles statistics and manages the total amount of various types of waste, and effectively pushes the reduction targets and waste reduction measures through data tracking.
- Set an annual waste reduction target of 1% for the total amount of unrecycled waste compared with the previous year.
- Set up sorting and recycling locations in the factory to recover waste materials.

Green Transport

- Established a factory system of production support, videoconferencing and shared rides for business trips to minimize emissions from motor vehicles used for product transport and staff commuting.

Nanya Technology Corporation

Company Profile (Honors)

- With technology innovation as the cornerstone of its growth, the company is devoted to DRAM R&D, design, manufacturing and sales, developing in-house technology, developing intellectual property rights, nurturing key technology R&D teams, implementing green technology and smart manufacturing to improve process performance and production capacity across the board, and is the 4th largest DRAM company in the world.
- Won 10 awards from TCSA 2021 and GCSA 2021, the first ever "Taiwan Top 10 Sustainable Enterprise Award" and the GCSA Sustainability Report Award, and remained the winner of the "Corporate Sustainability Report Platinum Award"; and received an A rating in the CDP project.

Type	Limited by shares
Founded	1995
Industry	Semiconductor memory
Products/Services	DRAM R&D, design, manufacture and sales

Corporate Sustainability	Objectives
SBTi	• Join SBTi in 2021, and the Science Based Targets initiative (SBTi) review was approved with target of well below 2°C by 2030. • Aims to reduce GHG emissions per unit of product by 25% (per die) and PFCs emissions by more than 90% by 2025 compared to 2017.
RE100	• Not a member of the RE100 initiative as of July 2023. • Set a further target of installing renewable energy generation equipment at 10% of contracted capacity by 2025 and using 25 million kWh of renewable electricity per year from 2023.

Corporate Sustainability	Objectives
EV100	Not a member of EV100 as of July 2023.
Carbon Disclosure Mechanism	• TCFD: Introduced the TCFD in 2018 and publicly signed the TCFD in 2021; adopts the TCFD approach, cross-departmental discussions to identify short, mid and long-term climate related risks and opportunities, with a total of 15 risks and 3 significant opportunities identified. • GHG inventory & management: Since 2017, Nanya has been conducting a Scope 3 inventory according to the Greenhouse Gas Protocol and has been externally verified to ISO 14064-1. • Has achieved 100% coverage of plant GHG verification and climate change risk identification.
Carbon Pricing	No information publicly available.

Green Mark Acquisition

MOEA Green Factory Certification

綠色工廠
GREEN FACTORY

Taiwan Green Mark

DJSI Emerging Markets Index

Dow Jones Sustainability Indexes

Green Manufacturing

Responsible Sourcing

Supplier Management & Responsible Sourcing

- Formulated the “Formosa Plastics Corp Supplier/Contractor Corporate Social Responsibility Pledge” and gives comprehensive training to suppliers, with 100% training coverage, and suppliers are required to undertake to abide by the CSR regulations in the pledge before signing the contract.
- Suppliers producing direct materials are required to have relevant third party certification to ISO 9001 & ISO 14001.
- Conducts on-site audits of key suppliers at least once every three years in phases, and from 2021, required 100% of key suppliers to undergo sustainability risk audits by third-party organizations commissioned by Nanya.
- Conflict minerals management: Conducted surveys of the conflict metal supply chain by commissioning factories and raw material suppliers, confirming 100% compliance with the conflict-free metal requirements for supply chain metal material suppliers. Suppliers of raw materials that use or contain 3TG are obligated to utilize the Conflict Minerals Reporting Template (CMRT) as a survey tool to provide 3TG survey results.

Green Manufacturing

Energy Management & Renewable Energy Use

Energy Management

- Introduced and completed the certification of ISO 50001 energy management system in 2018, with a view to continuously improving the use and management of energy.
- Nanya is actively planning for renewable energy development, taking the lead in purchasing 362 renewable energy certificates and completing the assessment of building in-house 450 kW solar power plant in 2020 and purchasing 10.4 million kWh of land-based wind power in 2021, and will continue to sign green power contracts to reach the target of using 22 million kWh of green energy per year by 2025, moving towards the RE100 initiative and SBT targets.
- Signed a 10-year green power purchase agreement with Formosa Solar Renewable Power Co in 2022, with a total purchase volume of 250 million kWh.

Water Resource Treatment

- Adopts WRI Aqueduct's water scenario modelling tool to analyze geographical location and risk of water scarcity at the plant site.
- Conducts simultaneous on-line monitoring of the effluent quality with the EPA and commissions regular off-line sampling and analysis on a quarterly basis to step up wastewater quality control.
- In 2016, the company, in tandem with the expansion of the FAB-3A-N plant, built an additional wastewater system and recycling system. In 2017, it completed the expansion of the acid-alkali wastewater system and recycling system with reverse osmosis membranes, and in 2018, it completed the construction of a hydrofluoric wastewater recycling system, with an average process water recycling rate of 95.2% in 2020.

Waste Disposal

- Both general industrial waste and hazardous industrial waste are managed centrally by the production department, and the waste contractors are audited from time to time to verify the legality and ensure that all waste has been disposed of properly.
- It did not transport any hazardous waste across borders from 2014 to 2020; all hazardous industrial waste generated in 2020 was consigned to qualified domestic clearance operators, of which 97.48% was ultimately disposed of for reuse.

Transport Packaging

Recycling of Packaging Materials

- Packaging materials, including cartons, shipping boxes, cushioning materials and wafer boxes, are recycled and reused internally as far as possible. Wafer boxes for raw materials are also recycled and reused for product shipment, with a reuse rate of nearly 100%.
- The packaging materials that can be reused in the return shipment of finished products are used for customer exchange, storage and consignment to reduce the number of collections and requests.

Design for Use

Products with Low Energy Consumption

- Using the lifecycle assessment tool SimaPro, it conducts 100% product lifecycle assessments, calculating product environmental footprints and identifying areas for subsequent improvement.
- The company is launching next-generation products such as DDR5 and LPDDR5 with its in-house developed 10nm DRAM process technology, which will further double the bandwidth performance and reduce the average power consumption by 16-35%.

New Kinpo Group

金寶集團 KINPO GROUP

Company Profile (Honors)

- Kinpo Group, spanning the EMS, ODM and green energy sectors, is a global leader in EMS, ODM and private label.
- Kinpo Group has received numerous green product and other certifications, including ISO9001, IECQ- QC080000, ISO14064, ISO14067, ISO 50001, ISO 27001, ISO 45001, ISO 22301, ISO 13485, IATF 16949, TL9000 and AS 9100.
- Overseas Locations: Besides the factories in China (Chang'an, Dongguan and Wujiang, Suzhou), Thailand, the Philippines, Malaysia, the U.S., Mexico, and Brazil, the Group also has R&D centers in Taipei and Thailand, and will set up offices and factories around the world as part of its global deployment strategy.

Type	Public
Founded	1973
Industry	Semiconductor related industries
Products/Services	Electronics manufacturing services (EMS), Original design manufacturing (ODM)

Corporate Sustainability	Objectives
SBTi	• Joined SBTi in 2022 to promote GHG reduction projects to meet the 1.5°C scenario and planned for a carbon-neutral reduction pathway by 2030.
Carbon Disclosure Mechanism	• TCFD: introduced TCFD in 2021 and conducted a matrix analysis of climate change risks and opportunities. Periodically assessed the likelihood of flooding and stipulated precautionary measures based on TCFD risk identification results. • GHG inventory & management: In 2021, Kinpo Group pushed forward the GHG inventory in factories worldwide to raise the coverage of GHG emissions from 65% to 100% and passed the third-party ISO14064 verification.

Green Mark Acquisition

- ISO 9001 Quality Management System
- ISO14064 Greenhouse Gas Accounting and Verification
- ISO 45001: 2018 Occupational Safety and Health Management Standard

IECQ QC 08000
Hazardous Substance
Process Management
System

Green Manufacturing

Sustainable Sourcing

- Formulated "Supplier Evaluation Management Regulations" and "Supplier Delivery Quality Periodic Evaluation Regulations" for quality management system/process quality control/ product green design requirements such as EU RoHS directive/product design and development process control.
- Suppliers are required to sign and submit a "Supply Purchase Agreement," "Conflict Minerals Policy Declaration" and the supplier's assessment, as well as provide the certification of the relevant ISO quality management system.
- Planning to establish a sustainable procurement supply chain as per ISO 20400.

Green Process

Energy Management

- Actively promoting various energy saving measures, including retiring the old circulation system with a new high efficiency chiller, and downgrading the air pressure system in the plant.
- Replacing old lighting with LED light tubes.
- Installing solar panels for energy management to improve efficiency.

Water Resource Management (Water Pollution Control Management)

- Switching to different agents to reduce air-conditioning water consumption, improving cooling tower water distributors, and cutting down on overflow costs due to uneven ground conditions.

Waste Management

- The centralized treatment of waste is aimed at separation and safety. Waste management is carried out by a dedicated unit in each location to keep track of the sources and the amount of waste generated and control them in order to increase the value of the resources utilized, with zero waste as the ultimate goal.
- Including process waste metal and semi-finished product packaging, with the management principle based on the optimal packaging material and reducing the percentage of hazardous waste.

Pegatron Corporation

Company Profile (Honors)

- Pegatron has a global presence in Taiwan, Mainland China, US, Mexico, Czech Republic, Indonesia, Vietnam and India.
- Pegatron has established the PureCSR and PureGMS green management systems to implement energy and resource management, with a focus on optimizing energy and resource utilization in the design, procurement and use stages to achieve continuous improvement and enhance overall environmental performance.
- In 2020, the company was included in the FTSE4Good Taiwan Index and became a constituent company of the Taiwan Sustainability Index.

Type	Public
Founded	2007
Industry	Computers & peripherals, digital imaging, photography, electronics
Products/Services	PCs, servers, interface cards, optical disc drives, modems, wireless communication products, digital audio/video players and LCD TVs

Corporate Sustainability	Objectives
SBTi	• Declare SBT reduction targets in 2022. Committed to set SBT target. • Commit to reducing GHG emissions per unit of revenue by 25% and electricity consumption by 25% by 2030 compared to 2019.
RE100	• Not a member of the RE100 initiative as of July 2023. • Install a solar power system on the roof of its production plant to reduce the use of external energy and GHG emissions from electricity consumption.

Corporate Sustainability	Objectives
EV100	• Not a member of the EV100 initiative as of July 2023. • Continue to promote green transport and online meetings with supply chain partners to reduce carbon emissions from business transport in order to save energy and increase efficiency in transport.
Carbon Disclosure Mechanism	• Risk management: The Company conducts risk assessments on environmental, social and corporate governance issues related to its operations in accordance with the principle of materiality, and follows the provisions of relevant laws and regulations to assess, manage and monitor its material risk impact. • Develop a GHG inventory plan and respond immediately to GHG emission reduction requirements by, for example, establishing a verification mechanism.
Carbon Pricing	No information publicly available.

Green Mark Acquisition

Constituent Company in 2020
FTSE4Good TIP Taiwan ESG Index

FTSE4Good
TIP Taiwan ESG Index

TIP
Taiwan Index Plus

2020 MOHW HPA Healthy Workplace
Certification - Health Promotion Label

Green Manufacturing

Responsible Sourcing

Local Sustainable Sourcing

- Continues to promote local sourcing as a means to lower transportation costs and save energy and cut carbon emissions, as well as to boost local employment opportunities through local sourcing.
- Pegatron is a member of the Responsible Business Alliance (RBA), which supports various CSR projects and initiatives, including responsible minerals and environmental sustainability, to encourage smelters to commit to responsible minerals assurance programs.
- Suppliers are audited regularly to ensure compliance with Pegatron PureCSR and PureGMS requirements, and are requested to provide improvement reports on deficiencies within a deadline.

Green Manufacturing

Diversified Programs for Carbon Reduction

Energy Efficiency & Renewable Energy

- Implements various energy saving measures in our daily operation management, including power usage management, lighting management and air conditioning system management, and other non-productive and significant parts of the electricity consumption, in order to raise the efficiency of electricity usage, and has introduced and passed the ISO 50001 energy management system certification.
- Introduces renewable energy for power generation, such as solar power systems on the roofs of production plants, to reduce the use of purchased energy and carbon emissions from electricity consumption.
- To effectively manage environmental issues, Pegatron has established a suitable environmental management system in line with the standards of the ISO 14001 environmental management system, which has been validated by a third-party impartial body.

Water Resource Treatment

- Uses the Aqueduct water resource assessment tool developed by the World Resources Institute (WRI) to analyze water resource risk in its business locations worldwide, measuring indicators of the extent of water overuse in each region by identifying water risk pressures.
- Continuous introduction of automated technology has resulted in a reduction in the number of workers on the production line and a consequent decrease in water consumption.
- Pegatron has a sewage laboratory at its East Mainland China Operations Center where it can monitor water quality on its own, and the equipment is regularly calibrated to ensure the accuracy of the monitoring results, with the following improvements made to the sewage treatment system to ensure that water quality standards are met.

Waste Disposal

- The company's industrial waste is primarily derived from R&D materials, scrap, packaging materials and employee household waste. Waste is mainly recycled, with those parts that cannot be recycled being destroyed and recycled twice.
- Through waste compliance management, inspection and auditing, it ensures that all waste leaving the plant is properly disposed of and not directly dumped in landfill sites, with the aim of achieving a circular economy. Some of the waste is incinerated and, in the future, it aims to reduce the proportion of waste incinerated in order to minimize the amount of pollution generated year by year.

Transport Packaging

Partnering with the Supply Chain to Optimize Efficiency of Cargo Transport

- Packaging and product lightweighting are optimized to minimize the use of raw materials, reduce transportation fuels, with suppliers selected by factoring in the location of the supply, to ensure efficient transportation of goods.
- Packaging design incorporates resource conservation, reusability and recyclability into a comprehensive assessment, as well as how to minimize the negative environmental impact of the use of packaging materials and processes, and the final treatment of packaging materials that are no longer required.
- Works with carriers to transport goods mostly by sea instead of by air and by rail instead of by truck, and seeks to bring goods together for transport to reduce the number of trips.

Design for Use

Mitigating Environmental and Health Impacts

- As a design-integrated service manufacturer, the company not only strengthens its green procurement, but also actively provides customers with innovative energy-saving, hazardous substance free (HSF) products to facilitate the development and introduction of green products.
- Its R&D focuses on energy saving, and during product development, it takes into account the compliance with international energy efficiency regulations in the design stage, and further plans and designs products for energy efficiency.
- More durable and less toxic materials are sought to achieve material reduction.

End Treatment

Easy-To-Recycle, Easy-To-Disassemble Product Design

- The easy-to-recycle and reusable design enhances the reuse and recycling rate of product components.

Phihong Technology Co., Ltd.

Company Profile (Honors)

- It is one of the top 10 power supply providers in the world, developing power supply products, including power adapters, battery chargers, PoE, electric vehicle charging piles, construction site stereos, as well as entering into the consumer electronics industry.
- It has continued to invest in CSR and sustainability, and has been honored with the TCSA Award several times, including the Gold Award in 2020.

Type	Limited by shares
Founded	1972
Industry	Electronic components
Products/Services	Power supply products

Corporate Sustainability	Objectives
SBTi	Not a member of the SBT initiative as of July 2023.
RE100	• Not a member of the RE100 initiative as of July 2023. • PHIHONG, as an EV charging pile manufacturer, is actively developing renewable energy sources and expanding its global charging station infrastructure, demonstrating its commitment to green transformation and providing a wide range of power supply products and EV charging piles.
EV100	• Not a member of the EV100 initiative as of July 2023. • Ongoing EV charging pile construction examples in Europe, USA, Taiwan, South East Asia and Mainland China.

Corporate Sustainability	Objectives
Carbon Disclosure Mechanism	• Participates in CDP projects on climate change, water safety disclosure and the EcoVadis evaluation platform system. • Its first CSR report, published in 2009, was developed through stakeholder identification and engagement, analysis of material issues and a writing framework based on the GRI Standards published by the Global Sustainability Standards Board. • GHG inventory & management: In 2010, the two Dongguan plants underwent their first inventory and passed a third-party audit by LRQA in accordance with ISO 14064-1. In 2021, it introduced ISO 14064-1:2018 version and conducted GHG third-party audits at the same time.
Carbon Pricing	No information publicly available.

Green Mark Acquisition

2020 EcoVadis Silver Medal for Corporate Social Responsibility

2020 ISO 9001 Quality System Audit and Certification Renewal

2020 TCSA Gold Award

Green Manufacturing

Responsible Sourcing

Responsible Sourcing

- Follows the Responsible Business Coalition and the Responsible Minerals Initiative to refrain from sourcing and using conflict metals.
- Develops the Hazardous Substance Free Management (HSFM) Standards: The HSFM includes RoHS, REACH, the ban on red phosphorus-based flame retardants, the control of halogen-free products, the EU RoHS extension 2015/863 to include four phthalates (BBP, DBP, DIBP, DEHP) prohibition criteria.

Green Manufacturing

Reducing Product Life-cycle Environmental Impact

Renewable Energy

- When the new Tainan plant was built in 2015, it was equipped with rooftop solar panels, which can generate an average of 30,000 kilowatts of electricity per year, reducing carbon emissions.

Water Resource Treatment

- The quality of water discharged from each production site is regularly tested to ensure that it meets the discharge standards of the local industrial area's wastewater treatment system.
- In 2020, the environmental monitoring rate of wastewater discharge reached 100%, in line with regulatory requirements.

Waste Disposal

- Thoroughly implements a waste management system through waste reduction, carbon reduction and pollution prevention, as well as compliance with environmental regulations where the company operates.
- Reduced the amount of waste generated through the acquisition and recycling of scraps and paid clearance.
- Completed ISO14001 (2015 version) certification in 2018.

Design for Use

Green Transport Development

- Collaborates with major brands and public transport companies to launch electric vehicle charging equipment.
- Focusing on green development and design, the company is intensifying its R&D of wide-gap GaN and SiC semiconductors for power supply applications to develop high-frequency, miniaturized, intelligent and high-efficiency products.
- Developing V2G products and technologies can support national charging protocols such as ISO 15118 and EMS (Energy Management System) standards for future power supply system stability.

End Treatment

- Follows the WEEE regulations as the minimum requirement for product development to ensure that products are reused, recycled and recovered in the latter part of their life cycle.

Primax Electronics Ltd.

Company Profile (Honors)

- A leading provider of solutions for information, electronics and consumer products by accurately identifying the trends of cloud technology and the IoT, adhering to high yields and quality manufacturing and development standards, and implementing intelligent system engineering.
- For the third consecutive year, the company was recognized by the TCSA, and in 2020, it was selected as one of the top 100 companies in the CSR Corporate Citizenship Awards, ranking 38th in the large company category. In 2020, the company received the Platinum Award for Corporate Sustainability Report - Electronic Information Manufacturing, and in its first participation, it was honored with the Taiwan TOP50 Sustainable Enterprise Award for Overall Performance.

Type	Limited by shares
Founded	1984
Industry	Electronic components
Products/Services	Computer peripherals, mobile communications, digital imaging, office equipment manufacturing

Corporate Sustainability	Objectives
SBTi	• Introduced SBTi methodology in 2020 to assess the Group's GHG emissions. Committed to set SBT target. • Aims to reduce GHG emissions (CO_2e) by 30% in Scopes 1 and 2 by 2030 compared to 2019 and to achieve net zero emissions in Scopes 1 and 2 by 2050.
RE100	• Joined RE100 in 2022 and aims for 100% renewable energy use and carbon neutrality at all its global business locations by 2040.

Corporate Sustainability	Objectives
EV100	Not a member of EV100 as of July 2023.
Carbon Disclosure Mechanism	• TCFD: Introduced TCFD framework for systematic identification and management of climate change risks and opportunities in 2020. • GHG inventory & management: Conducted ISO 14064-1:2018 GHG inventory at seven locations and in 2021 obtained Verification Opinion Statement.
Carbon Pricing	No information publicly available.

Green Manufacturing

Responsible Sourcing

Responsible Sourcing

- Since 2012, the Conflict Minerals Act has been followed: no sourcing and no use of conflict metals (e.g. tantalum, tin, gold, tungsten) from conflict zones in the Democratic Republic of the Congo, and this policy has been incorporated as an essential part of supplier sourcing/ management and product design.

Green Manufacturing

Energy Management & Renewable Energy Use

Energy Management

- Obtained ISO 50001:2018 certification for energy management systems at seven PRIMAX Group locations in 2020.
- Promotes a policy of reducing energy use (including electricity) by 2% per year.
- From 2019, the plant in Mainland China starts using renewable energy; in 2020, Dongguan Dongju and Chongqing plants continued purchasing renewable energy certificates.
- Continues to increase the proportion of renewable energy use, with a target of 50% of total energy use by 2030.

Water Resource Treatment

- Apart from PRIMAX Thailand and Tymphany Huizhou, the other seven major production sites have all undergone tissue-based water footprint inventories and have been certified to ISO 14046:2014.
- In 2019, a reclaimed water recycling system was introduced at PRIMAX's Liuwu plant, where process effluent is recycled and filtered for use in planting and toilet flushing.
- The PRIMAX Chongqing site carried out RO waste water recycling for domestic use in 2020.

Waste Disposal

- Hazardous wastes are properly stored and managed, and legal clearance operators are entrusted to dispose of them by incineration.
- There were no major waste leakage incidents in 2020 and all waste was disposed of in accordance with national regulations in Taiwan and Mainland China.

Design for Use

Non-toxic Material System Management

- Complies with IECQ HSPM QC080000 standards for hazardous substances process management system for electrical and electronic components and products.
- Adopts Product Data Management (PDM), PRIMAX GP Portal® and SAP® information management systems to identify component substances.

Qisda Corporation

Company Profile (Honors)

- Qisda is a cross-sector, full-service electronics design OEM service provider with products and technologies in the areas of high-end and professional displays, optical and precision electronics, industrial/commercial computer machines and peripherals, and in recent years has been actively accelerating its expansion into the medical industry and developing intelligent solutions in the hope of moving into the market with high value-added products.
- In 2021, the company received eight awards from the Taiwan Corporate Sustainability Awards (TCSA) and Taiwan Sustainability Action Awards. First-time winner of the Leadership in Social Inclusion Award, Taiwan Sustainable Enterprise Excellence Award, three Sustainability Report Awards and three Taiwan Sustainability Action Awards.

Type	Limited by shares
Founded	1984
Industry	Electronics
Products/Services	High-end and professional displays, optical and precision electronics, industrial/ commercial computer machines and peripherals

Corporate Sustainability	Objectives
SBTi	• The target is to achieve a 30% carbon reduction by 2030, using 2011 as the base year. Qisda also committed to set SBT target.
RE100	• Joined RE100 in 2022 and aims for 100% renewable energy use and carbon neutrality at all its global business locations by 2040. • The target is to achieve 50% energy savings by 2030.

Corporate Sustainability	Objectives
EV100	• Not a member of the EV100 initiative as of July 2023. • Develops the "Intelligent Vehicle Management System" and cooperates with the leading electric bus manufacturer in Taiwan.
Carbon Disclosure Mechanism	• GHG inventory & management: Since 2007, it has been conducting annual GHG inventories and third-party verification in accordance with ISO 14064-1 and the GHG inventory protocol. The results of the 2020 GHG emissions inventory for global manufacturing sites have been third party verified by ISO 14064-1.
Carbon Pricing	No information publicly available.

Green Mark Acquisition

MOEA Green Factory Certification

Taiwan Green Label

TCO Certification

Mainland China Energy Saving Product Certification

Energy Star

EPEAT Environmental Label

Green Manufacturing

Responsible Sourcing

Local Sourcing & Supplier Management

- It is committed to local sourcing to enhance supply efficiency and support local economic development; Qisda's sourcing ratio for 2020 was 75.33% for local sourcing in Mainland China and 38% in Taiwan.
- Supports the international boycott of conflict minerals and works with suppliers to conduct conflict minerals investigations according to the OECD Due Diligence Guidance to prevent direct or indirect sourcing of conflict minerals and to ensure that its minerals are sourced in a socially and environmentally responsible manner.

Green Manufacturing

Energy Management & Carbon Disclosure

Energy Management

- Introduced the environmental management system ISO 14001 in 1997 and 2001, obtained the Green Factory Mark in 2016, completed the ISO 14001: 2015 environmental management system conversion certification in 2017, and completed the new version of the energy management system ISO 50001:2018 certification in 2020.
- Regularly reports to stakeholders on the results of its sustainability initiatives and reduction performance in its annual CSR reports and actively participates in the international Carbon Disclosure Project (CDP) questionnaire. Its 2020 CDP disclosure score was a B.
- Energy saving measures in lighting and air-conditioning, such as switching to energy-saving lamps and LED escape lights, installing inverters in air-conditioning boxes, etc., and installing solar power generation system.

Water Resource Treatment

- Since 2011, its manufacturing sites have been paying close attention to the use of tap water; in 2020, water consumption was 135 tonnes per million dollars of production value, down approx. 46% from 2009.
- No wastewater is generated during the manufacturing process for any of the products produced at the manufacturing sites, except for domestic sewage.
- In terms of effluent quality testing, it is better than the wastewater reception standard of the Guishan Industrial Park in Taiwan, while Suzhou meets the comprehensive effluent discharge standard and the discharge water is regularly monitored and not reused by other organizations.

Waste Disposal

- The types of waste can be classified as general industrial waste, medical waste, waste solvents and waste electronic parts and components that cannot be classified as waste. No hazardous waste as defined by the Basel Convention is generated in the course of operations and production processes.
- Waste is mainly managed by environmental safety staff, while recyclable waste is moved to the resource recovery area for sorting by an outsourced service provider.
- The proportion of recyclable waste reached 91% by 2020.

Transport Packaging

Packaging Reduction

- The company aims to reduce the size and weight of products and packaging and the number of components in products, and achieved an average weight reduction of 26.42% in each product line in 2020, based on a modular design.

Design for Use

Carbon Footprint Management & Green R&D

- The company has established a carbon management platform to produce a "Cradle to Door" self-declared product carbon footprint report once the product is in mass production. The carbon footprint calculation methodology is in line with the Product Carbon Footprint (PAS 2050 and ISO 14067) standards.
- In 2010 as the first year, it integrated the elements of green design into the product development and design process and established the management system of green design (IEC 62430) and integrated design (ISO 14006).

End Treatment

Recovery Rate Assessment

- The company uses an internal WEEE platform at mid-design to assess whether the product's recycling rate meets its required baseline and to confirm that it does before moving on to the next design stage.

Quanta Computer Inc.

廣達電腦 Quanta Computer

Company Profile (Honors)

- Participates in the Carbon Disclosure Project (CDP) and fills in the self-disclosure questionnaire to review the performance and direction of continuous improvement.
- Calculates the company's carbon emissions every year and actively strives for carbon emission allowances. Participates in the voluntary emission reduction market in Chongqing and conducts an annual internal inventory.

Type	Public
Founded	1988
Industry	Contract manufacturing for computer hardware, cloud hardware & software integration
Products/Services	Computer & peripheral equipment, servers, smartphones

Corporate Sustainability	Objectives
SBTi	• Commit to SBTi to achieve a net zero carbon emission target by 2022 to uphold the corporate development target of a temperature rise below 1.5°C by 2050. Quanta also committed to set SBT target. • Refine sustainability goals for energy saving and carbon reduction by completing the CDP questionnaire. • Develop annual energy saving and emission reduction measures and targets, and gradually establish a comprehensive GHG emissions statistical calculation system. The scope of the inventory includes qualitative and quantitative inventory of Scope 1 (direct GHG emissions) and Scope 2 (indirect GHG emissions from energy sources).

Corporate Sustainability	Objectives
RE100	• Not a member of the RE100 initiative as of July 2023. • Set energy saving targets and implement plans as per Taiwan's Energy Administration Act, with annual power saving rate at 1% or above.
EV100	• Not a member of the EV100 initiative as of July 2023. • In low-carbon transportation, Quanta has been manufacturing automotive computers for top-tier auto companies in Europe and the US, such as Tesla and promoting self-driving Level 2+ technology.
Carbon Disclosure Mechanism	• According to ISO 14064-1:2018 and the standards of the GHG Protocol, the company has established an inventory of our GHG emissions and conducted regular annual GHG emission inventories and obtained verification statements: – The Shanghai plant has been certified to ISO 14064-1 since 2011. – The Taiwan and Chongqing plants have acquired the Third-Party Verification Statement since 2015.
Carbon Pricing	• In Shanghai and Chongqing manufacturing cities, the company complies with the local carbon emissions trading policy by estimating its own emissions and reporting them to the authorities each year. The authorities issue carbon allowances and cooperate with third party verification bodies to verify the actual emissions on site and check whether the actual emissions exceed the allowances issued.

Green Manufacturing

Responsible Sourcing

Green Product & Supplier Management

- According to the standards published by the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC), the company has introduced green product management under the ISO 9001 quality management system framework and obtained the IECQ QC 080000 management system certification.
- Adopts a responsible minerals sourcing policy that underpins the OECD Due Diligence Guidance for minerals and RMI's strategy and practices for conflict minerals and cobalt, and continually investigates whether suppliers are following these policies.
- Suppliers are required to provide third party material test reports on Quanta's green website and to declare banned substances to meet the requirements of control for the purchased materials.

Green Manufacturing

Diversified Programs for Carbon Reduction

Energy Efficiency & Renewable Energy

- Plant in Taiwan:

  Published the "Regulations for Energy Users to Set Energy Saving Targets and Implement Plans" pursuant to the MOEA's "Energy Administration Act" and achieved an annual energy conservation rate of 1% or more.

  Installed solar energy, wind energy, or other green energy and energy-saving equipment with a target of 10% or more of contract capacity as per the Taoyuan Ordinance for the Development of a Low Carbon Green City.

- Plant in Mainland China:

  Launches the annual energy saving project in compliance with local regulations and policies such as the "Energy Conservation Law of the PRC," "Responding to Climate Change: China's Policies and Actions," the "Work Plan for Controlling GHG Emission During the 13th Five-Year Plan Period" and the "Work Plan for Energy Conservation and Emission Reduction During the 13th Five-Year Plan Period."

Water Resource Treatment

- QRDC and QCMC premises' toilets are equipped with sensor-activated taps and water saving faucets; QRDC's perimeter green belt watering system is fitted with rainwater sensors; QCMC discharges wastewater from the cooling towers into the production line toilets for reuse.

Waste Disposal

- Waste removal, treatment and recycling are carried out and recorded by qualified clearance service providers according to local regulations.
- The company's environmental protection arm conducts audits of waste clearance operators from time to time to ensure that all outsourced service providers dispose of waste legally.

Transport Packaging

Waste Reduction and Reuse of Packaging Materials

- From the R&D and design stage, the company focuses on the reduction of waste in production and the reuse of related packaging materials whenever possible.

Design for Use

Safe Materials, Safe Finished Products

- A GP laboratory is available to test materials, auxiliary materials and finished products for hazardous substances under IEC 62321 and international inspection standards as well as legal, regulatory and customer requirements.

Shyang Shin Bao Ind. Co., Ltd.

Company Profile (Honors)

- Shyang Shin Bao is primarily engaged in the contract manufacturing of sports shoes and other specialized functional shoes for world-renowned brands, including Asics, Adidas, Diesel.
- In addition to the R&D and management base in Nangang Industrial Park in Nantou, Taiwan, Shyang Shin Bao has set up production plants in Vietnam, Indonesia and Myanmar, as well as an office in Hong Kong.
- Shyang Shin Bao has received numerous green product and other certifications, including ISO 90001, ISO 14001.

Type	Limited by shares
Founded	1984
Industry	Footwear manufacturing
Products/Services	Footwear and textile manufacturing

Corporate Sustainability	Objectives
SBTi	• Joined SBTi in 2022.

Green Mark Acquisition

- ISO 90001 Quality Management System
- ISO 14001 Environmental Management System

Green Manufacturing

Green Process

Energy Management

- The company works with customers to set medium- and long-term goals for solar energy, carbon reduction and waste management.

Simplo Technology Co., Ltd.

Company Profile (Honors)

- As a battery module manufacturer and supplier in Taiwan, it is dedicated to the manufacture and production of professional batteries, product design services and overall planning and provision of battery module solutions. The "Corporate Sustainability Policy," which covers the three major components of ESG (environmental, social and corporate governance), was formulated as the overarching guideline for the sustainable development of the simplo Group, and the implementation of ESG strengthens the competitiveness of the company.

Type	Limited by shares
Founded	1992
Industry	Electronics
Products/Services	Battery modules, portable chargers, electric vehicles

Corporate Sustainability	Objectives
SBTi	• Submitted carbon reduction pledge to SBTi in 2021 and the Science Based Targets initiative (SBTi) review was approved with target of well below 1.5°C by 2030. • The company aims to reduce its carbon emissions by 15% by 2025, with 2019 as the base year.
RE100	• Not a member of the RE100 initiative as of July 2023. • Simplo is working on lithium batteries to promote the development of renewable energy installations in Taiwan.
Carbon Disclosure Mechanism	• TCFD：Assesses climate related challenges and opportunities based on the TCFD core elements as a reference for developing climate strategies. • GHG inventory & management: Passed ISO 14064-1:2018 third party certification in 2021, with an inventory base year of 2020.

Green Manufacturing

Responsible Sourcing

Eco-friendly Materials Sourcing

- Prioritizes the sourcing of raw materials, products and services that are environmentally friendly, energy efficient and easily integrated with resources.
- Publicly declares that it does not directly procure or support the use of conflict minerals; requires all suppliers to sign the Conflict Minerals Declaration and requires suppliers to extend this standard to their subordinate suppliers.

Green Manufacturing

Energy, Water & Waste Management

Energy Management

- Planned the introduction of the ISO 50001 energy management system to reduce energy use.
- Carries out energy consumption statistics and analysis and energy saving and consumption reduction projects to continuously improve energy efficiency.
- Switched to energy efficient office machines or equipment.
- Uses sensor-activated light switches and sensor-activated water faucets.

Water Resource Treatment

- The Simplo Chongqing plant is targeting a 0.5% annual reduction in total water consumption for 2021-2023.
- Switched from a general water tap to a water-saving tap in 2020; actively uses water recycling, including cooling tower water and domestic water recycling.

- Its wastewater is classified as domestic sewage and it generates no industrial wastewater. The domestic sewage produced is pre-treated in the biochemical pool and is connected to the municipal wastewater piping network of the park after reaching the Grade 3 discharge level of the Integrated Wastewater Discharge Standard (GB8979-1996).
- Regularly commissions a qualified subcontractor unit to monitor the plant's domestic wastewater and rainwater on an annual basis, with indicators such as pH, suspended solids and chemical oxygen demand.

Waste Disposal

- Set up a waste management unit to co-ordinate the day-to-day management and quantity of all types of waste and to assist the units in promoting waste reduction and recycling.
- All domestic waste is disposed of by the municipal clearance operator and recyclable waste is sold to recycling service companies for treatment. All hazardous waste throughout the year is returned to the warehouse.
- Regularly carries out on-site audits on waste clearance service providers to ensure that all outsourced service providers are handling the waste legally.

Design for Use

Hazardous Materials Management

- The products comply with IECQ HSPM QC080000 for the management of hazardous substances in products.
- Works with customers to promote halogen-free products and product quality control. The company also purchases testing instruments and screens for RoHS restricted substances, Simplo also stays informed of international regulations and environmental trends.

Sunny Wheel Industrial Co., Ltd.

Company Profile (Honors)

- Sunny Wheel has been specializing in bicycle-related products since 1984 and entered the electric scooter market in 2010. The year 2018 saw the establishment of a design center, which provides a one-stop service for product development, design, manufacturing and packaging. The company is committed to exploring and meeting the basic needs of outdoor products and creating a competitive advantage for its customers.

Type	Limited by share
Founded	1984
Industry	Components manufacturing
Products/Services	Manufacture and sale of bicycle parts

Corporate Sustainability	Objectives
SBTi	• Approved corporate carbon reduction targets for 2022 through the SBTi SME approval model. • To reduce Scope 1 and 2 GHG emissions by 25% by 2030 and to conduct an inventory and reduce Scope 3 GHG emissions, with a baseline of 2020.
Carbon Disclosure Mechanism	• GHG inventory & management: third party inventory declaration ISO 14064-1:2018 version, 2020 GHG inventory declaration obtained in Nov. 2021.

Sunrex Technology Corp.

Company Profile (Honors)

- Sunrex's global presence includes Taiwan and Mainland China, it is currently the world's largest laptop computer keyboard manufacturer.
- Sunrex has made significant efforts to introduce strict green product certifications from Europe, the Unites States and Japan. Currently, Sunrex has passed the following certifications: ISO 9001, IECQ, ISO 14001, TS16949:2009, ISO 45001:2018, ISO 14064 and RBA.

Type	Limited company
Founded	1991
Industry	Electronics industry
Products/Services	Laptop computer keyboards, mechanical keyboards, touch pens, LED backlit, bluetooth keyboards as well as related IT products

Corporate Sustainability	Objectives
SBTi/Carbon Reduction	• Annual reduction target: To reduce the annual emission by 2% or more compared with the previous year. Sunrex also committed to set SBT target. • Mid and long-term goal: To reduce 80% of emissions by 2030 compared to 2016 baseline.
Carbon Disclosure	• Sunrex has passed ISO 14064 International Standard for GHG Emissions Inventories and Verification.

Green Mark Acquisition

- ISO 9001 Quality Management System
- ISO 14001 Environmental Management Systems
- ISO 45001:2018
- ISO 14064 International Standard for GHG Emissions Inventories and Verification

Green Manufacturing

Responsible Sourcing

Material inspection

- All raw materials providers must go through periodic SQE audits annually, during which hazardous substance control is an important audit item. Every piece of raw material shipped to Sunrex must include a certification report provided by a third party inspection organization.

Green Manufacturing

Energy saving and waste control

Energy saving

- Provide air conditioning only during business hours, the systems would be switched to either fan ventilation mode or turned off altogether whenever the ambient temperature reaches 26 degree.
- The assembly line and test equipment are only turned on during production.
- Replace old-fashioned light tubes with power-saving LED light tube.

Water management

- In 2020, the company implemented a number of water-saving measures and the estimated amount of water saved reached approximately 4,844 ton.

Pollution Control and Waste Reduction

- For left-over reusable plastic materials, the production division re-granulize and reuse them.
- For the remaining electronic and metal consumables that cannot be recycled and reproduced in the factory, the company contracts professional vendors to perform waste materials processing.

Design for Use

Green product design

- All products produced from its factories are RoHS compliant
- Use the strict IQC system to strengthen its control of materials, blocking out any potentially risky raw materials.
- Sunrex has actively introduced the even more stringent BFR/PVC /Halogen free product standard.

Taiwan Paiho Limited

Company Profile (Honors)

- Taiwan Paiho is well known for its production of materials for the footwear, apparel and medical supplies, providing materials for the industry: adhesive tapes, elastic tapes, webbing, shoelaces, reflective materials, 2D/3D logos, ingredient processing, injection hooks, bamboo charcoal products, etc. The world's top 20 sports brands are all its customers.
- Taiwan Paiho's headquarter processing plant, Vietnam Paiho, Vietnam Paihong and Dongguan Paihong had passed the environmental management system ISO 14001, energy management system ISO 50001 and carbon footprint certification in March 2019, Nov 2019 and Dec 2020 respectively.

Type	Limited by shares
Founded	1979
Industry	Manufacturing
Products/Services	Plasticized materials textile processing

Corporate Sustainability	Objectives
SBTi	• Joined SBTi in 2022 and set a Business Ambition for 1.5°C by devising a corporate carbon reduction plan for the 1.5°C global warming climate change response. Paiho also committed to set SBT target. • Set to reduce GHG emissions 3% by 2025 and 8% by 2030.

Green Mark Acquisition

Recycled Claim Standard

Green Manufacturing

Responsible Sourcing

Local Sourcing & Supplier Management

- It endorses green and local sourcing and gives priority to sourcing products that comply with environmental safety and health regulations, and supports the sourcing of products with improved energy sustainability designs.
- Taiwan Paiho made purchases from domestic suppliers at a rate of 96.4% and made purchases domestically at a rate of 95.1% in 2020.
- New suppliers are required to sign a prohibition against use of hazardous substances guarantee, REACH SVHC declaration and supplier questionnaire to ensure conformity with international regulations on hazardous substances before they can be classified as eligible suppliers. For eligible suppliers, annual supplier self-assessment is conducted through the quality management questionnaire and the environmental safety management questionnaire.

Green Manufacturing

Energy, Water & Waste Control

Energy Management

- It advocates energy saving at the headquarters to reduce energy consumption and waste, such as air-conditioning setting, lighting replacement, adding energy-saving air compressor, switching single cylinder dyeing to single multi-cylinder energy-saving equipment, setting up energy-saving Y-motor, exhauster replacement, air compressor pipe leak repair.

Water Resource Treatment

- The process wastewater is collected separately according to the characteristics of the pollutants to boost the overall efficiency, and is then treated by the activated sludge process to meet the requirements of the regulations before being discharged into the field ditches.
- In terms of water quality inspection, water quality (pH and conductivity) is tested at key points and discharge outlets in the wastewater treatment process, and a testing company is commissioned to conduct routine testing every six months in accordance with regulatory requirements. In 2020, the company's effluent fulfilled the effluent standards.

Waste Disposal

- Promotes plastic bag reduction projects, distinguishes between reusable and non-reusable bags, cuts down on the use of new plastic bags, increases reuse rates and finds new ways to recycle and reuse.
- No hazardous industrial waste from 2018 to 2020.

Design for Use

Green Products & Recyclable Materials

- It has introduced various control processes under the international quality standard system ISO 9001, IATF 16949 for the auto industry and AS9100D for the aviation industry.
- The biodegradable wood or bamboo material is used in place of the traditional plastic head band, and such material can also be made from renewable materials such as PLA biomass, bamboo wood and recycled PET.
- Waste yarn can be used as raw material in the recycling process for a wide range of products such as shoelaces, webbing, elastic belts and various textile products.
- The leftover material from the injection hooks is collected and crushed for regranulation into plastic products by the raw material manufacturer.

Taiwan Semiconductor Manufacturing Company (TSMC)

Company Profile (Honors)

- TSMC focuses on enhancing its core competencies and actively implements its five sustainable roles (green manufacturing, responsible supply chain, diverse and inclusive workplace, talent cultivation, and care for the underprivileged) to drive the semiconductor industry to carry out the SDGs in three stages: upstream procurement, corporate operations and customer usage.
- Pledges to use 100% renewable energy in its global operations by 2050, with zero indirect CO_2 emissions from electricity use.

Type	Public
Founded	1987
Head Office	Hsinchu, Taiwan
Industry	Electronics
Products/Services	Contract chipmaking

Corporate Sustainability	Objectives
SBTi	• SBTi does not yet have suitable guidelines for the semiconductor manufacturing industry.
RE100	• Joined RE100 in 2020, the first semiconductor company in the world to do so. • By 2030, 25% of the company's production plants and 100% of its non-production plants will be powered by renewable energy. • (Continued) Commits to using 100% renewable energy in its global operations by 2050, with zero indirect CO_2 emissions from electricity use.
EV100	Not a member of the EV100 initiative as of July 2023.

Corporate Sustainability	Objectives
Carbon Disclosure Mechanism	• TCFD: Published a TCFD report in 2020, which revealed its governance, strategy, risk management and targets and objectives. • GHG inventory & management: Since 2006, it has participated in the GHG emission inventory project of the Taiwan Semiconductor Industry Association, and annually reveals the GHG emission and reduction information of all plants across Taiwan, and obtains the third-party verification in accordance with ISO 14064-1 standard.
Carbon Pricing	No information publicly available.

Green Mark Acquisition

AWS Platinum rating for 2nd year in a row

ALLIANCE FOR WATER STEWARDSHIP

TSMC's LEED green building area rated 1st in the world in semiconductor industry

U.S. GREEN BUILDING COUNCIL LEED USGBC

First company to be awarded Green Factory Label

綠色工廠 GREEN FACTORY

Green Manufacturing

Responsible Sourcing

Green Procurement in the Office

- In 2002, it drew up the Green Procurement Procedures and implemented them, giving priority to products with green labels certified by domestic/international organizations or government agencies.
- In 2016, the green label was formally incorporated into the information product procurement guidelines, resulting in a significant rise in the proportion of green procurement of office supplies across the company from 53% in the previous year to 89%.
- The green building materials are used in compliance with the “Building Design and Construction Section of the Building Technical Regulations.”
- By 2020, it was recognized by the EPA's Excellent Green Procurement Unit Award for nine consecutive years, with a 99% green procurement rate in the office area.

Green Manufacturing

Develop Renewable Energy & Expand Energy Saving Measures

Energy Management

- By the end of 2020, TSMC had completed the signing of 1.3GW of renewable energy purchase contracts and achieved 100% renewable energy use in offices worldwide.
- Purchases renewable energy, renewable energy certificates and carbon credits and achieved zero carbon emissions from overseas subsidiaries for three consecutive years by 2020.
- Installed solar panels at the plant to generate zero-carbon renewable energy for in-house use, and continued to expand the capacity of the solar installation in 2021 to generate 5.76 million kWh of electricity.
- Improves the efficiency of energy use in production by scaling up innovative energy saving measures, smart energy saving devices and introducing clean energy.

- The new generation machine energy saving action project requires suppliers to save 20% energy by 2030, and the EUV process saves energy and promotes the reuse of residual hydrogen.

Water Resource Treatment

- The four measures of "reducing water consumption in the plant system, increasing wastewater recovery in the plant, improving the green production of water in the system and cutting the loss of water from the system" are combined with "diversified water supply, water efficiency management and wastewater resource recovery" to strengthen water resource management and boost the efficiency of water recovery in the plant.
- Effective management of water resources through the Alliance for Water Stewardship (AWS) certification.
- In 2020, construction work commenced and the park began to be served by recycled water supply lines, reducing the use of tap water and gradually moving towards the recycling of water resources.
- Set comprehensive water pollution indicators for the concentration of eight key pollutants and achieved a 42.4% reduction in comprehensive water pollution indicators by 2020 (annual target of 20%).
- Received an A rating in the CDP Water Resources Label in 2021.

Waste Disposal

- Reduction at source: A cross-organization waste management steering committee and a unit waste output management system were set up to strengthen the voluntary management mechanism and reduced 37,800 tonnes of waste by 2020.

- Circular economy: Established a system for the ammonium sulfate de-crystallization system to convert silica-containing wastes into industrial and silica sludge; lightened the environmental burden through material regeneration by building a zero-waste manufacturing center in 2020.
- Audit & counselling: A professional team is formed to audit partner waste treatment companies; and an intelligent waste traceability management system was introduced in 2020 to replace manual sampling and automatically detect and report suspicious movements.

Transport Packaging

- Low-carbon vehicles for land transport.
- Air to sea transport optimizes transport routes.

Design for Use

- The IoT business development division, the product technology advancement division and the Design Technology Platform are working together to promote the "Ultra Low Power Technology Project," which incorporates low power consumption elements into the technology framework to provide customers with low power consumption and energy efficient product application solutions.

TEKTRO Technology Corporation

Company Profile (Honors)

- TEKTRO is committed to the development and supply of high-end bicycle parts, with 80% in-house manufacturing, such as: forging, die-casting, CNC machining, brake leather pad and baking paint, etc., as well as carbon fiber manufacturing. With the strategy of vertical integration, the company is able to keep track of material manufacturing and product quality.
- Its products have won many awards in the market, such as Eurobike Award, iF Product Design Award, Red Dot Award, etc., and have been tested and well received by Bike Magazine, Mountain Bike Magazine, and Pinkbike website in the US.
- The Group has two brands Tektro & TRP, three offices (Germany, USA, Taiwan) and three plants (Hsiushui, Taiwan; Huizhou, Mainland China; Wuxi, Mainland China).

Type	Limited by shares
Founded	1986
Industry	Bicycle and parts manufacturing
Products/Services	Bicycle brakes and related parts, magnesium, aluminum alloys, forged and processed products, etc.

Corporate Sustainability	Objectives
SBTi	• Joined SBTi in 2023.

Topco Scientific Co., Ltd.

Company Profile (Honors)

- Topco Scientific has long been engaged in the semiconductor, photovoltaic and solar energy technology fields. In addition to continuing to upgrade its products and services in the semiconductor field, the company, in response to heightened awareness of environmental sustainability, has been actively acquiring large-scale wastewater treatment projects, developing recycling engineering technologies such as industrial waste clearance, introducing TQM systems to improve operational processes, and expanding into renewable energy and circular economy through investment and integration to achieve environmental sustainability and inject new growth momentum.

Type	Limited by shares
Founded	1990
Industry	Semiconductor and optoelectronics
Products/Services	Sales agent for precision materials, process equipment and components for the semiconductor, LCD and LED industries, providing system planning and integration services

Corporate Sustainability	Objectives
SBTi	• Joined SBTi in 2022 and committed to set SBT target. • Total GHG emissions in 2021 decreased by 8.6% compared to 2020.
EV100	• Not a member of the EV100 initiative as of July 2023. • Has goal to complete replacement of 77 vehicles for business use with EVs by 2030.

Corporate Sustainability	Objectives
Carbon Disclosure Mechanism	• TCFD: From 2021 onwards, Topco has been conducting an analysis of climate related risks and opportunities based on the framework recommended by the TCFD to facilitate climate change adaptation and mitigation. • GHG inventory & management: In 2019, the company began introducing ISO 14064 GHG inspection, which covered the Taipei headquarters building, Hsinchu plant and Zhunan plant. In 2021, it continued carrying out GHG inventory, and in 2022, it expanded the scope of GHG inventory to Scope 3, and continued to carry out energy saving and carbon reduction to reduce Scope 1 and Scope 2 emissions.

Green Mark Acquisition

TCSA excellence award

ANYO Museum received
Green Building Label
under Anyong Biotech Inc,
in which Topco Scientific has a stake

Green Manufacturing

Responsible Sourcing

Stringent Supplier Evaluation

- Topco Scientific's three major suppliers include Shin-Etsu Chemical Co., Namics Corp., and Osram Opto Semiconductors Asia Ltd. Among which, Shin-Etsu Chemical Co. and Osram Opto Semiconductors Asia Ltd. have specific GHG emission reduction targets, while Namics Corp. compares annual performance results against indicators such as green procurement and energy management, making these three suppliers key partners in Topco Scientific's ESG efforts.

Green Manufacturing

Energy, Water & Waste Control

Energy Efficiency & Renewable Energy

- Topco Scientific has expanded its solar PV integration services. In solar system engineering, the company has a complete solar supply chain, EPC turnkey projects, maintenance teams and cloud-based monitoring systems, and has completed over 40MW of installed capacity to date.
- Its subsidiaries, Jia Yi Energy Co. and ECO Technical Services Co., which combine energy creation, energy saving, energy storage and system integration, have a track record of building nearly 50MW and over 100 domestic and overseas solar power stations, and continue to expand the scale of system construction, building smart green pigsties and developing solar-aquaculture projects.

Water Resource Treatment

- Topco Scientific does not have its own factory, so there is no industrial waste water generated from the production process.
- Installing water-saving equipment and promoting the concept of water conservation.

- Reduced total water consumption by 13.69% in 2021 compared to 2020.
- ECO Technical Services Co., a subsidiary of Topco Scientific, has created the Wenqing Water Reclamation Center, which has effectively improved the domestic sewage generated by the population living near the MRT Linkou A7 station, reduced the load on the river, and boosted the permeability and water retention capacity of the area, storing 1,593 cubic meters of rainwater, reducing surface runoff and turning the center into a small reservoir during the dry season. The average volume of sewage treated in stage 1 to date is 4,000 tonnes.

Waste Disposal

- Topco Scientific does not have its own plant and does not generate industrial waste.
- General household waste and recyclable waste are disposed of by professional clearance operators.
- ECO Technical Services Co., a subsidiary of Topco Scientific, has been assisting customers in the decontamination of inorganic calcium fluoride sludge (industrial waste from the semiconductor, panel and optoelectronics industries). It has successfully recycled 1,800 tonnes of calcium fluoride sludge per month to produce approx. 1,080 tonnes of synthetic fluorspar, which serves as a flux in the domestic and international steel industry, effectively reducing the energy requirements of the steelmaking process, improving the quality of steelmaking and lowering the cost of waste disposal.

Transport Packaging

Working with Suppliers to Adopt Green Packaging Materials

- Topco Scientific is a sales-based business that provides knowledge and technology services rather than a manufacturer; therefore, the potential impact on the environment is carefully considered ranging from the supplier's product source selection to packaging and recycling, with the aim of lessening the environmental burden.

TPV Technology Limited

Company Profile (Honors)

- TPV has established a "five-pointed star" production and supply chain in Mainland China with five plants in Fujian, Wuhan, Beijing, Suzhou and Xiamen, and has overseas production bases in Brazil, Mexico, Poland, Russia and Argentina.
- In 2021, TPV received an A- rating for CDP supplier engagement and a B rating for CDP climate change and water safety.

Type	Private
Founded	1967
Industry	Electronics
Products/Services	CRT, LCD, LCD TV, PDP

Corporate Sustainability	Objectives
SBTi	• Submitted a SBTi compliance pledge in, and the Science Based Targets initiative (SBTi) review was approved with target of well below 1.5°C by 2030. • TPV aims to reduce absolute emissions by 42% in Scopes 1 and 2 and 42% over the life cycle of sold products in Scope 3 by 2030, based on the baseline of 2020.
RE100	• Not a member of the RE100 initiative as of July 2023. • TPV has purchased 205,555 kWh of renewable electricity at its production sites and business premises worldwide. In addition, its production sites in Qingdao and Beijing and the office building in Shanghai are fitted with solar power systems.

Green Manufacturing

Responsible Sourcing

Supplier Engagement in RBA Audit

- In 2021, 10% of TPV's production suppliers voluntarily participated in third party RBA on-site audits and 12.7% of production suppliers completed CSR on-site assessments and surveys.
- Suppliers are required to be fully accredited with ISO 9001 quality management system certification and ISO 14001 environmental management system certification and passed the assessment before becoming qualified suppliers.
- Suppliers and their staff are offered training on ESG and RBA, and training materials are shared in an effort to save energy and reduce emissions.

Green Manufacturing

Diversified Programs for Carbon Reduction

Energy Efficiency & Renewable Energy

- In terms of energy saving, TPV has mainly replaced air source heat pumps, controlled the use of air compressors, optimized lighting systems, reduced energy consumption in the operation of air-conditioning and exhaust equipment, adjusted the capacity of transformers and improved powered chilling units.
- In some production sites, ground source heat pump systems, solar power systems, solar hot water systems and LED lighting energy saving systems have been installed.
- Energy management in the data center is based on a combination of low-energy consumption design and high technology to continuously reduce the PUE (power usage effectiveness) value, which represents the energy efficiency of the data center. At the data center design stage, it adopts cold aisle design to reduce air-conditioning power consumption, and actively develops new technologies and uses virtualization to decrease the number of physical units to save energy and reduce energy consumption at source.

Water Resource Treatment

- Waste water from its production sites meets the requirements of local regulations.
- By stepping up pipeline inspections, it identifies water leaks in a timely manner, carries out pipeline modifications, minimizes water wastage and installs water saving devices in office premises.

Waste Disposal

- General industrial waste is sorted and handed over to legal suppliers for disposal; hazardous waste is transferred and disposed of in strict accordance with the management rules and handed over to legal third-party suppliers for recycling and disposal.

Transport Packaging

Partnering with Suppliers to Adopt Green Packaging Materials

- For some screen products, instead of using foam or other polymeric foam materials, its airbags are made from polyethylene and paper pulp which can be easily recycled and reused.
- For paper and cardboard packaging, it uses up to 90% recycled content, with 100% certified recyclable use.
- The packaging material for Philips displays is 100% recyclable and 85% of the plastic is recyclable after use.

Design for Use

Increasing Product Energy Efficiency

- TPV's Philips and AOC monitors are certified to the EPEAT environmental performance standard.
- Some of the displays can reduce power usage by up to 80% through ambient light-sensing technology.
- Some of the displays automatically adjust the screen brightness to save power by detecting the customer's usage status.
- In 2022, Philips products will introduce 35% recycled materials in the raw materials of the product backshells, which will gradually increase to 90% from 2021 to 2025, resulting in an estimated 6% reduction in carbon emissions.

End Treatment

Waste Recycling

- In a partnership with Closing the Loop, a global green procurement service provider, and TCO Development, a product certification organization, TPV's Philips displays promote the recycling of electronic waste, including displays, by endorsing third-party certified waste solutions.

Transart Graphics Co., Ltd.

Company Profile (Honors)

- A screen-printing company that employs more than 800 workers in four factories in Taiwan and Mainland China, Transart, in addition to product quality requirements, also established an environmental management system that protects the environment and employee health and fulfills its social responsibilities.
- Transart has obtained ISO-9002, ISO 9001:2000 and ISO 14000 certifications, and imposed strict quality control from incoming material inspection, printing and production to shipment, and has a number of UL certified products.

Type	Public
Founded	1973
Industry	Special printing
Products/Services	Self-adhesive and transfer labels

Corporate Sustainability	Objectives
SBTi	Joined in 2023, setting science-based targets (SBT), producing commitments and evaluating improvements by scientific method and weighted calculation.
RE100	Not yet joined RE100 as of July 2023.
EV100	Not yet joined EV100 as of July 2023.
Carbon Disclosure Mechanism	GHG inventory & management: Adopted the GHG inventory in 2019 and carried out the 2018-2020 GHG inventory of Taiwan's parent company, and continues with the program.
Carbon Pricing	No information publicly available.

Green Mark Acquisition

- ISO14001 Environmental Management System Certification

Green Manufacturing

End-of-Pipe Treatment

Environmental pollution management & waste reduction

- Effectively manages the waste, wastewater, waste gas, noise, etc. generated in the company's production process and daily life to forestall the impacts on the environmental quality of the area.
- Instituted the "Environmental Pollution Control Regulations" and legally removes and disposes of waste in compliance with environmental laws and regulations.
- Focuses on the recovery of wastewater, waste gas and solvents, and endeavors to improve the efficiency of the use of resources. Promote the reduction of waste in the factory to achieve the goal of recycling and reuse in line with the EPA's policy of rubbish separation and recycling. Specifies the monitoring of hazardous substances and pollution in the ISO management system documents in order to conform to the regulations and the company's commitments to environmental safety and health and to ease the burden on the environment.

United Microelectronics Corp.

Company Profile (Honors)

- UMC has a presence in Taiwan, Japan, Mainland China, South Korea, Singapore, Europe and the U.S. In June 2021, UMC became the first foundry in the world to declare a net-zero carbon emissions target by 2050, and joined the International Renewable Energy Initiative (RE100), with over 500 suppliers responding.
- The company was ranked No. 1 in the DJSI for global performance in the wafer specialty industry - listed as a constituent of the DJSI World Index for 14 consecutive years and also selected as a member of the Emerging Markets Index in 2021.

Type	Limited by shares
Founded	1980
Industry	Semiconductors
Products/Services	ICs, wafers & semiconductor related components

Corporate Sustainability	Objectives
SBTi	• Announced in 2021 to achieve far below 2°C target by 2030, and net zero carbon emissions target by 2050. • Based on 2010 baseline, UMC plans to reduce 65% fluorinated GHG emissions per wafer area and reduce 50% in absolute fluorinated GHG emissions by 2025.
RE100	• In 2021, it announced that it had join RE100 and committed to using 100% renewable energy by 2050, with short-term targets of 15% renewable energy by 2025 and 30% by 2030. • Calls on suppliers to work together to create a low-carbon sustainable supply chain, with a 20% reduction in carbon and 20% adoption of renewable energy by 2030.

Corporate Sustainability	Objectives
	• UMC focuses on its capabilities in energy conservation and solar panel installation, while issuing green bonds to raise funds for renewable energy systems installation, equipment efficiency enhancement and process pollution prevention.
EV100	Not a member of the EV100 initiative as of July 2023.
Carbon Disclosure Mechanism	• TCFD: UMC is a semiconductor industry leader in adopting the TCFD Third Party Performance Assessment in 2021. • GHG inventory & management: Annual inventory of company-wide GHG emissions and energy use in accordance with ISO 14064-1, in order to keep track of the current situation, as a verification of the effectiveness of the reduction, with a third party commissioned to conduct external verification.
Carbon Pricing	• Based on the results of each plant's carbon risk scenario analysis, UMC is now translating potential carbon emissions into potential carbon costs, i.e. promoting internal carbon pricing.

Green Mark Acquisition

US LEED

MOEA IDB
Green Factory

MOEA IDB
EEWH Green Building

MOEA IDB
Intelligent Building

Green Manufacturing

Responsible Sourcing

Local Sustainable Sourcing

- UMC actively implements its local sourcing strategy in all its production sites, with at least 65% of the total number of local suppliers.
- UMC is committed to green sourcing, with procurement amounting to NT$130 million by 2020, and has been awarded the "Excellent Green Sourcing Entity" by the EPA.

Green Manufacturing

Diversified Programs for Carbon Reduction

- Continuing its long-standing philosophy of green operations, the company aims to minimize its environmental footprint and is committed to low carbon sustainability, developing renewable energy, improving energy efficiency, lessening the environmental impact of its operations and products, promoting Industry 4.0 through process development and innovation, and practicing circular economy to achieve a balance between corporate operations and environmental sustainability.

Energy Efficiency & Renewable Energy

- UMC's energy consumption is primarily based on purchased electricity. Through the Corporate Sustainability Committee, UMC has set company-wide energy saving and carbon reduction targets and plans, introduced various energy saving technologies and carried out energy saving improvement projects for related facilities, including the continuous promotion of heat recovery projects for high temperature heat pumps and additional systems. A 10% reduction in electricity intensity is targeted for 2025, based on 2015.
- It has also planned to diversify its energy use by actively installing renewable energy in its plants, and has made solar energy systems a standard design item in new plants. By 2020, UMC and its subsidiaries have installed solar power systems with a peak generating capacity of over 5,000 kW; in 2020, UMC's solar PV systems generated a total of 2,912MWh of electricity, with renewable energy representing less than 1% of energy consumption.

Water Resource Treatment

- Advanced ammonia and nitrogen wastewater treatment technologies are being introduced to lighten the load on water bodies.
- The 2025 target is to save 0.2%/year in the production of ultrapure water.
- A total of 33 million tonnes of water was recovered in 2020 with a recovery rate of 67%.

Waste Disposal

- Source reduction, including reduction of waste sulfuric acid, waste solvents, waste phosphoric acid, sludge and ammonium sulfate.
- The three main benefits of promoting a circular economy are the reduction of waste, the reduction of energy consumption and costs of waste treatment, and the recovery of recycled resources from waste.

Transport Packaging

Packaging Material Reduction

- The packaging materials for raw materials and some used products are reused to decrease the amount of packaging materials and waste generated.
- In terms of product transportation strategy, a common distribution route is planned to replace frequent, small and irregular deliveries by taking into account the geographical location where the customer is based and the number of deliveries by vehicles.

Design for Use

Reducing the Use of Harmful Substances

- Continues developing eco-friendly reusable chemicals that can replace chemicals used in existing chemical cleaning processes, thus alleviating the environmental hazards associated with the production of semiconductors.
- Advocates the reuse of raw materials in the manufacturing process, and independently develops green chemicals and promotes chemicals without harmful substances and the recycling thereof.
- Promotes clean production and lowers the use of harmful substances during the production process. In 2017, UMC led the industry in achieving the PFOA-related Free Program and began to follow international environmental regulations by focusing on PFBS.
- Develops environment-friendly, low-power, high-grade process chips.

End Treatment

Easy-To-Recycle Product Design

- Maintain the simplicity of IC chip and product composition.
- Avoid composite materials for recycling and disposal.

Vanguard International Semiconductor Corporation

Company Profile (Honors)

- VIS is a leading specialist IC foundry services provider headquartered in Taiwan. Based in Hsinchu Science Park, with five 8-inch fabs worldwide and subsidiaries sitting North America, Mainland China, and Singapore, VIS has a monthly production capacity of approx. 262,000 units of wafers, and a workforce of over 6,000 by 2022, with the goal of becoming a leader in the field of "specialty IC fabrication services."
- Recognizing the importance of corporate sustainability and environmental sustainability, the company embarks on a low-carbon transformation and adopts a responsible attitude to map out a sustainable blueprint from compliance to commitment, with the ultimate goal of achieving net-zero emissions by 2050.

Type	Public
Founded	1994
Industry	Semiconductor manufacturing
Products/Services	Wafer manufacture and special IC manufacturing services

Corporate Sustainability	Objectives
SBTi	• Not yet joined SBTi as of July 2023. • Set short, mid and long-term GHG emission reduction targets: Short-term target: 22% lower GHG emissions per unit product (kg-CO_2e/8-inch wafer area) in 2023 from 2015; Mid-term target: 25% reduction in GHG emissions per unit product (kg-CO_2e/8-inch wafer area) in 2025 from 2015; long-term target: 30% reduction in GHG emissions per unit product (kg-CO_2e/8-inch wafer area) in 2025 from 2015.
RE100	• Joined RE100 in 2022 and committed to a target of 100% renewable electricity use across all Group companies by 2040.

Corporate Sustainability	Objectives
EV100	Not a member of the EV100 initiative as of July 2023.
Carbon Disclosure Mechanism	• TCFD: Introduced the TCFD framework in 2019, disclosed information and identified climate change risks and opportunities based on the framework, and established metrics and targets according to the results of the identification, and formulated and implemented response measures for risk management. • CDP: In 2014, VIS signed up for CDP on a voluntary basis and obtained a B grade in the Climate Change Questionnaire. • GHG inventory & management: With reference to ISO/CNS14064-1 and the EPA GHG Inspection Guidelines, "GHG Emissions Inventory Registration Guidelines" and the WBCSD/WRI GHG Inventory Protocol, the company defined organizational boundaries in a 100% operational control manner, conducted inventories, and passed the third-party external verification by SGS.
Carbon Pricing	No information publicly available.

Green Mark Acquisition

TCSA 台灣企業永續獎

Won the TCSA - "Corporate Sustainability Report Award" for 4 straight years in 2020

Green Factory Label, Industrial Development Bureau, MOEA

綠色工廠 GREEN FACTORY

Silver of National Enterprise Environmental Protection Award, EPA, Executive Yuan

Green Manufacturing

Responsible Supply Chain

Sustainable supply chain management

- Conducts sustainability risk surveys and assessments for key suppliers, and performs audits and counseling for higher-risk suppliers to ensure that ESG risks in the supply chain are effectively mitigated and controlled.
- Commitment: Focuses on supply chain carbon emissions and climate change issues and builds supply chain resilience. Continuously strengthens value-competitive supply chains.
- Continued Improvement: Ensures suppliers are providing products from reliable, conflict-free mineral sources. Practices green procurement, taking into account both operational growth and environmental responsibility.
- Risk Assessment: Coordinates suppliers' resources and capabilities to enhance supply chain resilience. Seeks multiple sources of supply for the same material to ensure supply chain stability.
- Regular Audits: Obtains optimal products and services from suppliers. Boosts the supplier's performance in terms of environmental, social and economic sustainability.

Green Manufacturing

Multi-programs for carbon reduction

Water Resource Management

- Implements water conservation measures and enhances the efficiency of water use.
- Implements water recycling in the plant.
- Formulated the "VIS Water Truck Delivery Plan for Water Shortage" to initiate the relevant contingency mechanism according to the water situation and to lessen the impact of drought and water shortage on the production capacity.

Energy Management

- Introduces renewable energy, arranges for the installation of renewable energy power generation facilities, such as solar power generation systems, and purchases Renewable Energy Certificates.

- Installs solar PV system with a capacity of 270kW, and continues to purchase renewable energy and renewable energy power generation facilities. It is estimated that the renewable energy capacity will reach 8,437kW in 2023, generating approx. 11.3 million kWh of electricity annually.
- Adopts ISO 50001 Energy Management System to examine the energy-saving potential in the plant, and actively practices various GHG emission management actions, and achieved over 21% reduction in GHG emissions per unit wafer area in 2021.

Waste Management

- Employed technical staff for waste disposal and laid down waste disposal control procedures pursuant to ISO 14001.
- Places a premium on waste reduction at the source and waste recycling.
- Treats most of the waste materials in physical and thermal processes, and then reuses them as industrial-grade raw materials, cement, or paving blocks materials.
- Creates a circular society of resource recycling and reuse, and donates the recycled obsolete information products to the disadvantaged groups so as to narrow the digital divide in society.

Transport Packaging

Packaging Recycling, Shared Distribution Routes

- Reuses packaging materials for raw materials and partially used product packaging materials to reduce the consumption of packaging materials and the amount of waste generated.
- Recovers empty wafer cassettes after tape-out of raw materials and semi-finished product cassettes sent to subcontractors and reuses them for product/finished product shipment packaging.
- Draws up shared distribution routes according to trade conditions, delivery schedules, shipment volumes and delivery locations, in lieu of frequent, small-volume shipments.

Design for Use

- Cuts down the quantity of materials used in the manufacture of products, and recovers and reuses materials such as exhaust piping, gas piping, and chemical piping.

VP Components Co., Ltd.

Company Profile (Honors)

- VP mainly produces bicycle pedals, head parts, bottom bracket axles and hubs, handlebars, and other production items including heat treatment, CNC machining, electroplating, aluminum compressing, forging, plastic injection molding, painting, aluminum extrusion, warm forging, silicone, etc.
- So far, the company has invested and set up factories in other areas that meet the local market demand, such as Waipu head office in Taichung; electroplating factory in the Changhua Coastal Industrial Park in Lugang, Changhua; aluminum extrusion and warm forging processing in Yuanli, Miaoli; Taicang factory in Shanghai; Jiaxing factory in Zhejiang; and Shuangkou factory in Tianjin, etc., and all of the factories have been operating smoothly to date, with offices in the US and Europe.
- VP has passed many green product and other certifications, including ISO 9001, ISO14064, ISO14001, ISO45001, IATF16949.

Type	Limited by shares
Founded	1980
Industry	Retail sale of motor vehicle parts and supplies
Products/Services	Bicycle pedals, Head parts, bottom bracket axles and hubs, handlebars, other production items including heat treatment, CNC machining, electroplating, aluminum compressing, forging, plastic injection molding, painting, aluminum extrusion, warm forging, silicone, etc.

Corporate Sustainability	Objectives
SBTi	• Joined SBTi in 2023 and submitted a carbon reduction commitment to keep warming within 1.5°C by 2030. • Mid-term targets (by 2030): Reduce GHG emissions in Scopes 1 and 2 by 42% against the baseline year 2020, and commit to cut GHG emissions in Scope 3 from purchases of goods and services, fuel and energy-related activities, upstream transport and distribution, and investments by 25% against the baseline year 2021.

Corporate Sustainability	Objectives
Carbon Disclosure Mechanism	• GHG inventory & management: Passed ISO 14064 Greenhouse Gas Accounting & Verification.

Green Mark Acquisition

- ISO 9001 Quality Management System
- ISO 14001 Environmental Management System
- ISO 14064 Greenhouse Gas Accounting & Verification
- ISO 45001:2018 Occupational Safety & Health Management Standard

Green Manufacturing

Green Process

Energy Management

- Actively pushing the production of renewable energy and planning for solar power generation monitoring on rooftops. Solar panels can effectively block solar heat, lowering the room temperature of top floors by about 2-4°C and saving about 15% of air-conditioning power consumption.

Water Resource Management (Water Pollution Control Management)

- Process wastewater electronic monitoring: Keeping track of wastewater discharge status through monitoring to detect irregularities as early as possible, or setting up a wastewater monitoring management system with big data analytics to assist in real-time remote monitoring and exception alerts.
- Completing the water storage tower and stabilizer motor installation.

Toxic Chemicals Management

- Introducing chemicals into the system to prioritize the management of chemicals and classified management.
- Substituting aluminum alloy cleaner for controlled chemicals to reduce the risk of hazards.

Wistron Corporation

Company Profile (Honors)

- Wistron's vision for sustainability is to become a "company that uses technology to improve the quality of life and the environment.“
- By considering the issues of concern to all stakeholders and focusing on the four pillars of sustainability: "Corporate Governance," "Environmental Protection," "Social Inclusion" and "Innovation Value," Wistron has established a comprehensive ESGI sustainability strategy.

Type	Public
Founded	2001
Industry	ODM
Products/Services	Laptops, desktops, servers, network storage equipment, information equipment

Corporate Sustainability	Objectives
SBTi	• Take more aggressive action from 2020 onwards by setting GHG reduction targets based on SBTi. Committed to set SBT target. • Targets: – Absolute GHG reductions of 16.8% by 2020. – Absolute GHG reductions of 37.8% by 2025. – 58.8% reductions by 2030.
RE100	• Not a member of the RE100 initiative as of July 2023. • Set a renewable energy target of 60% by 2021, with an annual increase of 3.5%, and mid and long-term targets of 74% by 2025 and 91.5% by 2030 respectively, in response to international trends in renewable energy, through the procurement of renewable energy certificates, the installation of solar power systems and the purchase of green power.

Corporate Sustainability	Objectives
EV100	• Not a member of the EV100 initiative as of July 2023. • The company has been actively investing in AIoT, 5G, LCM, AI and on-board applications in recent years, and has made breakthroughs in continuous and accurate vehicle positioning technology, and has entered into railway and EV applications to help transform the transportation industry into a "zero-carbon fleet."
Carbon Disclosure Mechanism	• TCFD: Starting 2019, the company began applying the TCFD framework to identify climate risks and opportunities and to discuss and establish metrics and targets to manage them accordingly. • GHG inventory & management: The company compiles annual GHG inventories as per ISO 14064-1 and verifies them through third-party certification entities in order to keep tabs on the sources and emissions of GHG in each plant.
Carbon Pricing	No information publicly available.

Green Mark Acquisition

EPA, Executive Yuan
Energy Saving and Carbon Reduction Action Mark

Taiwan Corporate Sustainability Awards (TCSA) 2020

Green Manufacturing

Responsible Sourcing

Responsible Sourcing & Supplier Management

- Carries out material audits through the IECQ QC 080000 Hazardous Substance Management System and the in-house developed GPM (Green Product Management System) to strictly require suppliers not to use hazardous substances and to disclose substances of concern under the relevant regulations to ensure compliance with regulations and customer specifications for raw materials.
- Abides by the Responsible Minerals Initiative (RMI) and commits to not using raw metal mined from illegal and hostile working conditions such as armed conflict, forced labor and child labor.
- Prepares annual high-risk suppliers (for Taiwan / Mainland China) and executes a corporate sustainability and social responsibility audit plan, which is included in departmental KPIs for supplier audits and evaluations.

Green Manufacturing

Diversified Programs for Carbon Reduction

Energy Management & Renewable Energy

- By introducing the ISO 50001 energy management system, the management system works effectively with real-time energy signage to identify and analyze energy consumption hotspots and develop energy projects based on the analysis results.
- Installed solar power generation facilities at the Neihu Office, Zhongshan Plant, Kunshan Plant and Kunshan solar PV Plant. In 2020, 4,163 square meters were added to the Kunshan Plant, 14,272 to the Zhongshan Plant, and 104 to the Neihu Office to significantly increase solar power generation capacity.
- In the Zhongshan, Kunshan and Kunshan solar PV plants, a large number of solar panels were installed on the roofs of the plants to supply electricity to the factories or to heat water for the dormitories.

Water Resource Treatment

- Achieved the target of zero pollution discharge/leakage and zero environmental complaints and penalties by 2020 by introducing an ISO 14001 environmental management system to systematically manage environmental issues.
- Undertakes water quality testing on a regular basis to ensure that effluent conforms to regulatory requirements.

Waste Disposal

- Carries out source reduction in combination with resource sorting and recycling program, and sets up recycling bays in each factory and office for resource-based waste that may be generated at the factory as required by law, and collects it centrally before having it removed by external resource recycling service providers.
- An audit program is in place to conduct regular reviews of waste clearance operators.

Transport Packaging

Recycling of Green Packaging Materials

- Waste reduction and eco-friendly materials are considered at the early stage of product design, with post-consumer recycled (PCR) plastic materials being used.
- Uses recyclable materials for cartons, cushioning materials and printing inks wherever possible, and takes advantage of this by adding recycled materials to the production process at source.
- Worked with customers to use ocean-bound plastics, with a total of 15 products (laptops and monitors) made from ocean-bound plastics for their housings in 2020.

Design for Use

Green Product Design & Quality Management

- Adopts the Green-design Guide during product design & development and introduces green product management under the ISO 9001 quality management system framework.

End Treatment

Product Recycling & Reuse

- Refines and modifies waste plastics to produce eco-friendly plastic materials that can reused in electronic products.
- Recycles and dismantles electronic waste, uses the least polluting chemical methods and extracts precious metals from circuit boards.

Wistron NeWeb Corporation, WNC

Company Profile (Honors)

- WNC is a subsidiary of Wistron Corporation and a Taiwanese manufacturer of wireless communication products. It specializes in network communication, network infrastructure, smart home, and advanced driver assistance system solutions. Its headquarters is located in the Hsinchu Science Park, and it has service and manufacturing bases in the United States, the United Kingdom, Germany, Japan, Mainland China, and Vietnam.
- In response to the TCFD, SBTi, and RE100, WNC is committed to SBTi carbon reduction goals in 2023, aiming to reduce carbon emissions by 42% in scopes 1 and 2, and achieve net-zero emissions by 2050. WNC also aims to achieve 100% use of renewable energy by 2040.

Type	Public
Founded	1996
Industry	Information and Communication Technology
Products/Services	WNC engages in fields such as 5G edge infrastructure, satellite broadband, satellite broadcasting, enterprise networking, Wi-Fi equipment, connected vehicles, and smart home technologies.

Corporate Sustainability	Objectives
SBTi	• In 2023, WNC submitted a 1.5°C carbon reduction commitment to the SBTi. • With 2022 as the base year, WNC aims to achieve a 42% reduction in greenhouse gas emissions in scopes 1 and 2 by 2030, and to reach net-zero emissions by 2050.
RE100	• In August 2023, WNC announced its participation in the RE100. • WNC committed to using 100% renewable energy across the entire group by 2040, becoming the first major internet company in Taiwan to join RE100, and the 29th Taiwanese company to join the initiative.

Corporate Sustainability	Objectives
CDP	• WNC continuously participates in the CDP Supply Chain Program. In 2022, the company responded to questionnaires on “Climate Change” and “Water Security”, achieving a B rating, which is higher than the global average for the electricity and electronics equipment industry.
Carbon Disclosure Mechanism	• TCFD: The company joined TCFD in 2021 and began publishing an independent TCFD report in 2023, disclosing detailed information about TCFD management activities. The approach is divided into short-term (1-2 years), medium-term (3-5 years), and long-term (6-10 years) phases. The company identifies issues with significant impact based on the intensity of climate change impacts and develops corresponding response measures. • Greenhouse Gas Inventory and Management: Since 2012, following the ISO 14064-1 standard and the Greenhouse Gas Protocol (GHG Protocol), the company set 2019 as the base year for calculating and verifying greenhouse gas emissions. In 2022, in compliance with the Financial Supervisory Commission's requirements, all subsidiaries and offices within the WNC Group were included in the inventory scope. The goal is to complete the inventory for 100% of all sites by 2023 and to conduct third-party verification of greenhouse gas emissions annually starting from 2024.

Green Mark Acquisition

2022 EcoVadis Sustainability
Recognition Level
Gold Level, Top 5%

FTSE Russell
Telecommunications Equipment
Industry Top 15%

2022 CDP
Climate Change B Rating,
Water Security B Rating

2022 Global S&P Corporate Sustainability Assessment
Communication Equipment Industry Category, Third Highest Score

2022 Taiwan Corporate Sustainability Awards
Corporate Sustainability Report, Silver Award

Green Manufacturing

Responsible Sourcing

Digital supply chain platform management

- Implements a supplier pre-screening system, suppliers must meet WNC's supplier qualifications before signing a contract for cooperation.
- WNC requires suppliers to sign a code of conduct and declaration, ensuring compliance with global sustainability trends and RBA (Responsible Business Alliance) standards. The company regularly educates suppliers about RBA standards, communicates to understand their compliance with RBA, and advises and encourages suppliers to use smelters certified by the Responsible Minerals Initiative (RMI).
- WNC planned and integrated various digital supply chain platforms for collaborative cooperation with suppliers. Upon completing registration, suppliers can upload documents such as "Sustainability Commitment Declaration", "ESG Survey", "Integrity Commitment", and "Legal Compliance Commitment". They can also execute various business operations, thereby strengthening supply chain collaboration and improving efficiency.

Green Manufacturing

Multi-programs for carbon reduction

Carbon Emission & Energy Management

- WNC has established an Environmental, Safety, Health, and Energy Management Policy, under which it promotes various related measures. The company conducts regular internal audits and third-party verifications every year to ensure compliance with ISO 14001, ISO 14064, ISO 50001, IECQ QC080000, FSC™ CoC, and relevant environmental regulations.
- The company has expanded the installation of solar power stations on the rooftops of major global production sites. By the end of 2022, the total installed capacity of solar power stations at WNC's sites reached 6.3MW, with a total electricity generation of 2,575,838 kWh, among which, the self-consumption electricity amount was 952,116 kWh. Complemented by the purchase of I-RECs, the proportion of renewable energy used in 2022 reached 6.65% of the total electricity consumption.

- In line with its 2023 commitment to RE100, WNC is working towards achieving 100% renewable energy usage by 2040.
- The company has implemented the ISO 50001 Energy Management System, formulating specific improvement plans for systems such as lighting electricity, exhaust, air conditioning, and air compression. Daily electricity usage recording and analysis, electricity efficiency improvement, pipeline/circuit engineering improvements, upgrades and replacements of old facility equipment, and the promotion of various energy-saving schemes are carried out in the work environment.

Water Resource Treatment

- WNC recycles water used for domestic purposes, industrial processing, cooling drainage, and rainwater in its factory areas, applying it for toilet flushing and plant watering.
- WNC has a wastewater management permit to accommodate increased volume of wastewater due to expanded production capacity, and has installed effluent monitoring equipment within the factories to ensure that the wastewater meets the global regulations.
- Based on the water risk standards of the World Resources Institute (WRI), the company identifies potential impacts and risks related to water resources at each production site, aiding in the development of water risk management strategies.

Waste Disposal

- The primary sources of waste are packaging materials including waste paper, plastic, and wood, and pallets used in the delivery of materials.
- Contracted professional vendors convert materials into recyclable products, taking to incineration or landfill disposal as a last resort.
- WNC tracks and monitors waste processing through removal vehicles, waste storage facilities, on-site safety management, and the sales channels of recycled products, to ensure that the contracted vendors comply with legal requirements for testing, removal, and disposal of waste.
- Based on ESG evaluation results, the company rates suppliers in tiers and manages them accordingly.

Transport Packaging

Use of recycled raw materials

- WNC actively recycles and reuses waste, aimed at reducing the consumption of raw materials at the source and facilitating the circular use of reusable materials (including reverse recycling and reuse by suppliers).
- Recycling activities include the recovery of tin slag and metal scraps from printed circuit boards, which are provided to recycling manufacturers for metal reprocessing. WNC is fully committed to recycling and reuse, extending to requiring suppliers to recycle and reuse packaging materials, including plastic pallets used in the manufacturing process and cardboard boxes supplied with goods.
- WNC has adopted a packaging design that minimizes volume to enhance transportation efficiency and uses low-carbon transportation methods.

Design for Use

Increase use of recycled materials and lower carbon footprint

- Integrates easy-to-dismantle and recyclable designs into its products to enhance material reuse rates and establish product recycling mechanisms.
- Focuses on developing low-energy-consumption products to reduce electricity usage during the product's operational life. WNC also manages hazardous substances and designs products to minimize the use of raw materials. Additionally, it prioritizes the use of environmentally friendly materials, such as renewable, recyclable, and low-pollution materials, in its manufacturing processes.

Wiwynn Corporation

Company Profile (Honors)

- Wiwynn Corp, a subsidiary of Wistron Group, provides solutions for hyperscale data centers and cloud infrastructure products and systems.
- Wiwynn Corp continues to develop sustainable products, participates in the Carbon Disclosure Project (CDP) and has been awarded a B status in the Climate Change category, and is a member of the Taiwan Climate Partnership. It has set a target of 30% carbon reduction and 30% green electricity use by 2030.

Type	Public
Founded	2012
Industry	Computer & peripherals
Products/Services	Design, manufacture and service of data center products

Corporate Sustainability	Objectives
SBTi	• Joined SBTi in 2022 to realize a carbon reduction pathway. And the Science Based Targets initiative (SBTi) review was approved with target of well below 2°C by 2031. • Set to reduce GHG emissions intensity by 30% in 2030 compared to 2020 in terms of product equivalent.
RE100	• Not a member of the RE100 initiative as of July 2023. • Two renewable energy purchase contracts were signed in 2021 and will expand wind power sources and increase demand for solar PV purchases by 2022. • Set to achieve 30% renewable energy use by 2030.
Carbon Disclosure Mechanism	• TCFD: Wiwynn Corp's sustainability report passed a TCFD third party compliance audit and continues to implement climate management using the TCFD as a framework. • GHG inventory & management: introduced ISO 14064-1 and passed third party verification.

Green Mark Acquisition

2020 TCSA Silver Award TCSA 台灣企業永續獎

The production site in Malaysia aims to be a green factory that is GBI GOLD certified and is slated for completion in 2023

Green Manufacturing

Responsible Sourcing

Local and Sustainable Sourcing

- With the proportion of raw materials sourced locally in the US and Mexico over 50% and that of packaging materials sourced locally in Taiwan approx. 98%, the company continues pushing for over 80% of its critical component suppliers to be able to support a local production strategy.
- Wiwynn Corp has developed a supplier evaluation system that includes a supplier performance rating system, a supplier business review (SBR) and a supplier sustainability and social responsibility (ESG) audit.

Green Manufacturing

Energy, Water & Waste Control

Energy Efficiency & Renewable Energy

- The energy saving and carbon reduction measures are estimated to save 292,860 kWh of electricity per year, equivalent to a reduction of 147.02 tonnes of CO_2e emissions.
- Signed 2 renewable energy purchase contracts.

Water Resource Treatment

- The main source of water used in its operations is tap water, recycled rainwater and groundwater for domestic use, which causes no significant impact on natural water sources, and the waste water generated is limited to household sewage, and the company continues to publicize its water conservation policy.

Waste Disposal

- Introduced ISO 14001:2015 environmental management system and appointed a qualified third party to carry out the clearance and disposal.
- Waste recycling rate reaches over 90%.
- The Taipei headquarters aims to produce less than 80kg/person/year of waste relative to the equivalent unit of employee numbers.
- The Tainan branch aims to produce less than 0.5kg/pc of waste relative to the equivalent unit of production capacity.
- Audits are carried out at least once a year on outsourced waste clearance and disposal operators.
- Waste reduction and sorting campaigns are conducted for staff.

Design for Use

Increasing Product Energy Efficiency

- Developing and introducing more efficient power supplies (e.g. 48V) and cooling technologies (e.g. optimized CFM/Watt) to achieve low PUE and high energy savings.
- The power conversion efficiency has been optimized to achieve a practical conversion efficiency of over 97%.

End Treatment

Products Designed for Easy Dismantling and Recycling

- WEEE compliant products are designed to be easily dismantled and recyclable to meet 3R standards, such as recycled plastic use and recyclable packaging.
- About 40% of products are made from recycled plastics, with more than 89% of plastic materials being replaced by recycled plastics.

Zyxel Communications Corporation

Company Profile (Honors)

- Zyxel Communications Corp, a subsidiary of Zyxel Group, focuses on telecom/connectivity equipment business and is the most awarded Taiwan networking brand in the "Top 25 International Brands in Taiwan" over the years. Zyxel's products and solutions have also been recognized by many prestigious awards in Taiwan and the global telecommunications industry, including the "Taiwan Excellence Award," the "Best of Innovation Award" at the Consumer Electronics Show (CES), a finalist for the "Best Innovation in Wireless Broadband" at the Broadband World Forum (BBWF) and the " Fiber-To-The-Home Top 100" in the US.
- In 2021, Zyxel received the EcoVadis Silver Award, placing it in the top 25% of sustainable companies in all industries, and has received numerous green product and other certifications, including ISO 14001, ISO 14025, ISO 14062, ISO 14064, ISO 14067, ISO 14006, IECQ QC08000, ISO 9001, TL9000, ISO 27001, ISO 50001, ISO 45001:2018, ISO 45001.

Type	Limited by shares
Founded	1987
Industry	Communication machinery and equipment related
Products/Services	Network access devices

Corporate Sustainability	Objectives
SBTi	• Joined SBTi in 2023.
Carbon Disclosure Mechanism	• TCFD: Joined TCFD in 2023, and integrated scenario analyses of risk management and climate impacts through TCFD's assessment of the relevance of climate change to business activities to further disclose the resilience to climate change. • CDP: Climate Change Questionnaire Grade C (Awareness). • GHG inventory & management: Passed ISO 14064 Greenhouse Gas Accounting & Verification.

Green Mark Acquisition

- ISO 9001 Quality Management System
- ISO 14001 Environmental Management System
- ISO 14025 Environmental Labels & Declarations
- ISO 14064 Greenhouse Gas Accounting & Verification
- ISO 9001 Quality Management System
- ISO 50001 Energy Management System

Green Manufacturing

Sustainable Sourcing

- 93% of suppliers have signed up to Zyxel's Sustainability Commitment; 100% of major suppliers are ESG certified.
- 99.53% of purchases do not use conflict minerals, nor accept raw minerals from the Central African DRC and neighboring conflict countries.

Green Process

Energy Management

- Continuing to promote energy and water conservation improvement programs, gradually installing waste water recycling and treatment facilities and improving the rainwater collection system.
- Adopting LED bulbs for all lighting.

- Regularly maintaining air-conditioning units and keeping the room temperature at 26°C, with the goal of reducing energy consumption by 6,000 kW per year, against the electricity consumption in 2021.
- Committed to increasing the rate of green energy use, with the headquarters in Hsinchu Science Park to complete the construction of a solar power system.

Water Resource Management (Water Pollution Control Management)

- Zyxel is not involved in manufacturing in Taiwan, so its water consumption is mainly for daily use in office buildings; by harvesting rainwater, switching to sensor taps and upgrading recycling equipment.

Waste Management

- With the goal of sustainable use of resources and the rationalization of related clean-up costs, the company's management is based on the reduction of waste in the manufacturing process, followed by recycling, with incineration and landfill as the last resort.

Transport Packaging

- Designing products from a circular economy perspective, making them recyclable, reducing material consumption, and choosing biodegradable and renewable materials.

Design for Use

- When designing products, Zyxel takes into account the durability of materials to avoid waste.
- Product manufacturing, installation and dismantling should minimize energy consumption, and the carbon footprint of products should be disclosed.
- Significantly cutting waste generation through prevention, reduction, recycling and reuse.

3dL Lab. Inc.

Company Profile (Honors)

- 3dL Group is a contract maker for brands in over 30 countries worldwide. With many business locations and thousands of employees in Taiwan, Mainland China, Japan and the USA, 3dL is the largest facial mask supplier in Taiwan. In view of the global demand for environmental protection, 3dL has taken the initiative to join the Green Initiatives and Halal Certification to expand the international beauty market.

Type	Limited by shares
Founded	1994
Industry	Cosmetics manufacturing
Products/Services	Development, manufacture and sale of beauty care products

Corporate Sustainability	Objectives
RE100	• Joined RE100 in 2018 with a commitment to achieve 100% renewable energy use by 2048.
EP100	• 3dL Group has joined EP100 with a commitment to achieve at least one of the following three objectives: to boost energy productivity (EP) by a factor of two, to reduce energy waste and to own and use smart energy buildings. • The factory has been certified with Taiwan's EEWH Green Building Label bronze class in Taiwan and is progressively establishing a green factory with fully automated intelligent production management. 3dL Group's Tridl Smart Green Factory has been internationally certified with ISO50001:2018 energy management system in 2019.

Green Mark Acquisition

Taiwan EEWH Green Building
Label bronze

Asia Cement Corporation

Company Profile (Honors)

- Asia Cement and its “Skyscraper” brand cement have always occupied the core position in Taiwan’s cement business. The Company’s “Three Highs and One Low” strategy, high quality, high efficiency, high environmental protection, and low cost, along with its management capability, have given the Company the competitive edge to efficiently face challenges in the market. Asia Cement’s global presence includes Southeast Asia, North America, Africa, and the Middle East Asia. Meanwhile, Asia Cement began to invest in Mainland China from 1994.
- The Company has won the Enterprise Environmental Protection Award consecutively for 3 years. Its Hualien plant has achieved remarkable results in circular economy, energy saving, and carbon reduction, making Asia Cement the first cement producer in the world to simultaneously receive the certification for circular economy standard, carbon footprint and water footprint.

Type	Listed company
Founded	1957
Industry	Cement industry
Products/Services	Cement & Clinker

Corporate Sustainability	Objectives
SBTi	• Asia Cement joined the SBTi in March 2021, with climate target of well below 2°C by 2025, becoming the fourth cement plant in the world with a well-below 2°C target. • By 2025, including Taipei headquarter, Hsinchu Plant and Hualien Plant, the emission intensity of cementitious materials (scopes 1 and 2) will be reduced by 8%, equivalent to the reduction of over 258,000 tonnes of GHG emission.

Corporate Sustainability	Objectives
RE100	• Has not joined RE100 as of July 2023. • Reduce 1% (baseline year 2019) of energy consumption and intensity in the cement main business each year; the percentage of the power generated from waste heat is above 20% of the total power used by Hualien Plant.
EV100	• Has not joined EV100 as of July 2023.
Carbon Disclosure	• CDP: Continued to participate in the CDP carbon disclosure project and rated class B in 2020, the Supplier Engagement Rating (SER) rated class B. • Task Force on Climate-related Financial Disclosures (TCFD): Disclosed critical items considered by a specific industry including climate change strategy, indicators and targets, based on the Guide for Construction Materials Sector issued by TCFD for specific industries.
Internal Carbon Price	• The internal carbon price from 2021 to 2025 is NT$216.

Green Mark Acquisition

BS 8001 Circular Economy

- ISO 14064-1:2018 Greenhouse gases
- ISO 14067:2018 Greenhouse gases — Carbon footprint of products
- ISO 14046:2014 Environmental management — Water footprint
- ISO 50001:2018 Energy Management System
- ISO 14001:2015 Environmental management systems

Green Manufacturing

Responsible Sourcing

Material recycling and greening

- Set up a greenhouse seedling system in the quarry to cultivate various indigenous plants and transplant them to the remnant walls of the excavation sites.
- The restoration of vegetation covering 100% of the mining excavated area by 2036.
- Hualien Plant uses external recycled raw material and in-plant waste (refractory brick, etc.) as the alternative raw material of cement. Other plants are using desulfuration gypsum, blast furnace slag and fly ash as the alternative raw material; Nanhua Cement used the recyclable material of water quench blast furnace slag 100% in the grinding process of slag powder.

Green Manufacturing

Majority matrix

Energy saving

- Uses the most modern rotary kilns and introduces waste-heat recycling generators to transform waste heat and hot air into electricity.
- 23 action plans were implemented in Hsinchu/Hualien Plants and saved 469TJ of heat value, among which the electricity was saved approximately 12,540,000 kW/h.

Power generation

- The waste heat from the rotary kiln system of Hualien Plant was used to generate hot water and then going through boiler to produce high pressure steam for the generator to generate power, a way of generating power by recycling heat energy.
- Planned to install solar power generator before 2025, the installed capacity would be over 3.7MWp.

Water management

- Evaluate water risk to identify the impact and to increase the percentage of water recycle and reuse.

Pollution Control and Waste Reduction

- Controls end-processing pollution through high efficient fly ash collection equipment, while selecting good quality materials or fuel (such as high quality limestone and low sulfur coal) to reduce air pollution emission from the source.
- SO_X, No_X, mercury, ash emission reached the annual targets and continue to decrease every year.

Transport Packaging

Green packaging

- Aggressively recycling and reusing lining paper, in 2020, a total of 1,206 tonnes of lining paper were recycled, 73% of the total lining paper used. The weight of recycled lining paper is 1.42% of the total produced stainless steel.

Design for Use

Reduction, recycle and reuse of waste

- Revised the standard of CNS 61 Portland Cement to reduce the consumption of raw material and the consumption of power.
- Developed electrical instrument information technology inhouse, and applied to cement production and waste heat power generatio.

End Treatment

Waste recycling and reuse

- General industrial waste such as refractory bricks, were reused by the cement rotary kiln in the plant, approximately 95% of the total waste is recycled and reused.

BES Engineering Corporation

Company Profile (Honors)

- BES Engineering has a presence in Taiwan, Vietnam and Cambodia, where it undertakes infrastructure, industrial park development and commercial property development, and applies green and smart construction methods to commercial buildings.
- In recent years, BES Engineering has focused on the development of green buildings and promoted urban green building projects, two of which have been awarded the Taiwan's EEWH green building certification.

Type	Limited by shares
Founded	1950
Industry	Construction
Products/Services	Real estate development, planning and sales

Corporate Sustainability	Objectives
SBTi	• Join SBTi in 2022, and committed to set SBT target.

Green Mark Acquisition

EEWH green building Label

2022 Smart City Innovation and Application Award - BES Engineering Tucheng AI All-round Smart Park / 5G Smart AV Real-time Decision Management System

Green Manufacturing

Green Manufacturing

Energy, water & waste control

Energy Efficiency & Renewable Energy

- Carbon reduction in construction water: recycling of wastewater from car wash bays and water removal operations, installation of sewage treatment facilities, automatic sprinklers for airborne dust control, water-saving solutions for concrete maintenance.
- Carbon reduction in construction electricity: phasing out traditional lighting and installing energy-efficient one.
- Waste/carbon reduction on site: recycling of waste paper, electronic documentation, proper storage of materials for recycling, refuse sorting.
- Carbon reduction in site greening: protecting the original planting transplants or new planting during construction and actively greening the site, e.g. green fences.
- Carbon reduction in operating machinery: developing a comprehensive maintenance mechanism for facilities and equipment, conducting regular inspections and maintenance to ensure energy efficiency of facilities and equipment.

Water Resource Treatment

- Each site follows the approved construction site runoff wastewater pollution abatement plan and sets up suitable intercepting drains, settling basins, grit chambers or car wash bays within the site, collecting wastewater from the site through the intercepting drains, which can effectively suppress sediment discharge pollution, and after natural gravity sedimentation, conducting regular sampling and testing to ensure that the discharged wastewater meets the effluent standard.

Waste Disposal

- Sandy wastewater or sludge produced during construction should be properly treated before being transported off site and should not be discharged indiscriminately.
- Waste materials and soil should be piled separately to avoid mixing and to enhance the reuse value of waste soil.
- Domestic waste clean-up and control: Garbage bins with lids are set up to separate refuse, and recycling bins put in place at designated locations to promote resource recovery and waste reduction.

Design for Use

Green Building Design

- The green building concept has been progressively incorporated into the self-construction project, with green plantings added to the overall design environment, the use of standard green building materials and the emphasis on "greenery," "water resources," "daily energy saving," "carbon dioxide reduction," "waste reduction" and "sewage and waste improvement" during the construction process.

CHIMEI Corporation

Company Profile (Honors)

- CHIMEI Group's business locations and subsidiaries are primarily in Taiwan and Jiangsu, Mainland China.
- In 2018, CHIMEI issued NT$5 billion worth of green bonds and has invested in four green projects, including a solar power plant, a cogeneration power plant, an EDR water recycling system, and a resource recovery furnace, aiming to achieve "80% of production water from a water recycling system," "80% energy self-sufficiency from solar energy and natural gas," and "98% sludge waste reduction in the plant."

Type	Limited by shares
Founded	1960
Industry	Chemical
Products/Services	Plastic materials

Corporate Sustainability	Objectives
SBTi	• Join SBTi in 2021, and committed to set SBT target. • Using 2007 as the base year, the Scopes 1 and 2 targets are to reduce carbon emissions by 35% by 2025, 40% by 2030, and 32% by 2025 per unit of product. CHIMEI also set Business Ambition for 1.5°C. • The Scope 3 target was to reduce carbon emissions from business travel by 67% in 2021 compared to 2019.
RE100	• Not a member of the RE100 initiative as of July 2023. • CHIMEI's Green Energy Park is built on the core idea of "Tree-Power Symbiosis," with over 22,000 native tree species preserved throughout the area and a 15MW ground-mounted solar power plant with an annual capacity of 20 million kWh, resulting in an annual carbon reduction of 12,000 tonnes.

Corporate Sustainability	Objectives
	• The CHIMEI cogeneration power plant is scheduled to be completed in Nov 2022, with a projected annual carbon reduction of 124,000 tonnes. With an installed capacity of 60MW, the plant will be able to generate 500 million kWh of electricity per year, and upon completion, together with the solar power plant in the Green Energy Park and the CHIMEI roof-mounted solar installation, CHIMEI will be able to generate 80% of its electricity from clean, self-generated energy
EV100	Not a member of the EV100 initiative as of July 2023.
Carbon Disclosure Mechanism	• TCFD: The TCFD framework is used to develop a governance approach, action strategies, and to further identify and analyze the major risks and opportunities involved in the organization in order to set specific carbon reduction targets. • GHG inventory & management: certified for ISO 14064-1. • CHIMEI in 2021 was awarded the "A-" leadership rating in the CDP's climate change program.
Carbon Pricing	No information publicly available.

Green Mark Acquisition

Asia Responsible Enterprise Awards
Green Leadership

CDP Climate Change Rating
Leadership Level

Green Manufacturing

Responsible Sourcing

Local Sustainable Sourcing

- Chi Lin Technology, a subsidiary of CHIMEI, has achieved 100% local sourcing of its PCRs for 2 consecutive years. CHIMEI has developed and realized a more comprehensive green sourcing strategy by introducing the ISO 20400 sustainable sourcing system in 2021.
- 91.4% of the top 5 suppliers of primary raw materials are certified to ISO 14001 environmental management systems.

Green Manufacturing

Diversified Programs for Carbon Reduction

Energy Efficiency & Renewable Energy

- This ground-mounted solar installation in the Green Energy Park has a capacity of 15 MW and an annual output of 20 million kWh. Together with the existing roof-mounted solar power, CHIMEI now has a green power capacity of 22 MW.
- CHIMEI's self-built cogeneration power plant, with an installed capacity of approx. 70MW, is expected to generate nearly 500 million kWh of electricity annually upon its official opening in 2022, and the heat value is recovered from the process and the steam generated will be fed back into the production process.

Water Resource Treatment

- CHIMEI's self-built EDR water resource center produces 3,000 tonnes per day of reclaimed water for reuse in the process, reducing the company's mains water demand by 10%.
- Since 2016, rainwater has been collected and recycled into industrial water through activated carbon treatment.
- Since 2017, water discharged from the cooling towers has been recycled by RO for reuse as industrial water, replenishing approx. 19 million liters of industrial water per year.
- Rainwater recycling replenished approx. 182.775 million liters of industrial water in 2020.

Waste Disposal

- Outsourced waste clearance service providers are audited and managed.
- Incinerable waste is thrown into an in-house resource recovery furnace for incineration and heat recovery.
- CHIMEI's self-built resource recovery furnace will be able to treat 100% of the plant's wastewater sludge in-house, and significantly reduce the amount of waste produced, with only 2% of the original amount of sludge remaining after treatment. In addition, the heat value generated in the treatment process can be recovered and the steam generated will be fed back into the production process.

Transport Packaging

- PP laminated packaging material is converted to OPP or PE packaging bags for single material products.

Partnering with Suppliers to Adopt Green Packaging Materials

Design for Use

Tapping into the Recycling Sector

- With a view to recycling and reducing carbon emissions, CHIMEI has joined forces with the supply chain to develop and apply a full range of sustainable materials, including mechanical recycling, chemical recycling and biomass material.
- CHIMEI and its subsidiary, Chi Lin Technology, have long been committed to the development of recycled materials. As early as 2016, CHIMEI has been engaged in the field of mechanical recycling and established an ecological chain of post-consumer recycled plastic (PCR), and is now an important supplier of PCR ABS, PCR PC and PCR Alloy, as well as an important supplier of PCR recycled plastic to major PC and laptop brands.
- In 2022, CHIMEI has also released the world's first recycled MMA optical-grade light guide plate, which uses chemically recycled MMA to maintain the same optical properties as virgin MMA. This achievement by CHIMEI breaks the restriction that recycled materials are normally only used for exterior parts and opens up the application of recycled materials for critical optical components.

CTCI Corporation

Company Profile (Honors)

- As a world-class turnkey engineering company, it is committed to international engineering services and has been implementing a number of domestic and international environmental protection and energy saving projects such as cogeneration, electricity generation through refuse incineration, sewage treatment, desulphurization, denitrification, dust removal and Dioxin pollution abatement for many years, actively responding to global carbon reduction issues.
- Awarded TCSA for 5 consecutive years for Most Prestigious Sustainability Awards-Top Ten Domestic Corporates and TCSA Platinum Award for English language report; awarded CommonWealth's Taiwan's Excellence in CSR Award and Best International Brand in Taiwan by the Ministry of Economic Affairs, Industrial Development Bureau; received an A-grade in the CDP Climate Rating; selected as a constituent of the DJSI Emerging Markets for 7 consecutive years.

Type	Limited by shares
Founded	1979
Industry	Engineering turnkey projects
Products/Services	Project management, engineering design & procurement, construction and maintenance, and intelligent solutions

Corporate Sustainability	Objectives
SBTi	• Join SBTi in 2022, and committed to set SBT target. • Joined the Taiwan Alliance for Net Zero Emission and the Association of Taiwan Net Zero Emissions in 2021 aiming for net zero carbon emissions from office premises by 2030 and from production sites by 2050.
RE100	• Not a member of the RE100 initiative as of July 2023. • 30% of projects using 10% or more of renewable energy by 2025.

Corporate Sustainability	Objectives
EV100	Not a member of the EV100 initiative as of July 2023.
Carbon Disclosure Mechanism	• TCFD: Introduced the TCFD framework to assess the physical, liability and transition risks associated with climate change, measure and calculate the impact of climate change on itself, its suppliers and its value chain partners, and facilitate climate related financial disclosure and communication between stakeholders. • GHG inventory & management: ISO 14064 third-party certified since 2012. • Participates in CDP's voluntary corporate carbon disclosure platform.
Carbon Pricing	No information publicly available.

Green Mark Acquisition

US LEED Green Building
Gold Class

Taiwan EEWH Green Building
Bronze Class

綠建築標章
GREEN BUILDING

TCSA for 5 consecutive years
for Most Prestigious Sustainability
Awards-Top Ten Domestic Corporates

TCSA 台灣企業永續獎

Constituent of DJSI Emerging Markets
for 7 consecutive years

Dow Jones
Sustainability Indexes

Green Manufacturing

Responsible Sourcing

Green Development

- It is committed to the development of green engineering technologies to provide owners with economical and viable energy saving solutions from a life-cycle perspective of design, procurement, construction, commissioning, operation and decommissioning.

Green Manufacturing

Energy Management & Renewable Energy

Energy Management

- The ISO 14001:2015 environmental management system is introduced, and integrated with the ISO 45001:2018 occupational safety and health management system and consolidated into a safety, health and environment management system for practical execution, to facilitate integration into the company's overall daily operations and to grasp the overall risks involved.
- The scope of application of the safety, health and environment management system covers design, procurement, construction, commissioning and related works sites and is validated by a third party who also conducts annual external audits.
- Process waste heat recovery and reuse, steam generation and reuse.
- LED energy-saving lighting is used to improve energy efficiency, and solar and wind energy generation facilities are installed.

Water Resource Treatment

- A rainwater recycling system is installed on the roof of the building and on the construction site to provide open space greenery for spraying and irrigation, or for use during construction.
- Develops measures to reduce water use during construction, quantifies water recovery and conservation: e.g. rainwater and surface runoff recovery in sedimentation tanks, reuse of water from leaking barrel/tank tests and test water recovery.
- For the treatment of construction wastewater, apart from the installation of grit chambers at appropriate locations, if the wastewater does not contain harmful substances or is not unclean, it will be collected, sedimented and then recycled; if it contains harmful substances or is unclean, it will be collected and treated on site or treated by commission until it meets the effluent discharge standard and then discharged.

Waste Treatment

- The principle of construction is to minimize waste generation within the site and to set reduction targets to enhance management and waste avoidance.
- General household refuse and that that can be removed or disposed of together with general waste is collected by category and stored in appropriate containers before being handled by commissioned city/town clearance operators.
- CTCI also entrusts the disposal of waste soil, hazardous industrial wastes and toxic substances to eligible and legitimate clearance operators.

Design for Use

Green Technology Development

- Use of recyclable or reusable materials, efficient management of resources and reduction of raw material consumption.
- The process is based on advanced environmental and energy saving technologies, and the central control center within the plant has been designed with a green building concept to lessen the impact of plant operations on the natural ecosystem.
- In recent years, it has been actively investing in low-carbon business such as green energy and energy storage, and has established a good track record in the construction of solar PV, offshore wind power, lithium battery plants, LNG receiving stations and other resource recycling industries.
- In 2022, it signed a MOU with ITRI to collaborate on the development and application of technologies in the net-zero carbon emission, hydrogen energy and renewable energy industries, with a view to combining their expertise to drive the industry and jointly mitigate global warming.

Formosa Chemicals And Fibre Corporation

台灣化學纖維

Company Profile (Honors)

- Formosa Chemicals And Fibre Corporation (FCFC) is one of the major members of Formosa Plastics Group. Originally engaged in the manufacture and sale of textile and fiber products, FCFC added PS, ABS and other plastic products since 1987. After investing in Mailiao Refinery, the company was transformed into a petrochemical and plastic products manufacturer. The company is the world's second largest maker of SM, the world's third largest maker of ABS, synthetic phenol manufacturer, the world's fifth largest maker of PS, and the world's seventh largest maker of aromatic hydrocarbons, PTA, and polycarbonate resins.
- The company's main production bases are in Taiwan, Mainland China and Vietnam, with operations and sales services across all continents. Taiwan and China hold the largest market share, followed by Southeast Asian countries. The total number of employees in Taiwan is 5,166.

Type	Public
Founded	1965
Industry	Chemical & related manufacturing
Products/Services	Plastic raw materials, processed plastics, fiber products, textiles and cogeneration related products.

Corporate Sustainability	Objectives
SBTi	• Joined the initiative with a target temperature rise of no more than 2°C, compared the carbon reduction target for 2027 with 2018 as the baseline year to achieve a reduction of 22.5%. GHG emissions were cut by over 10% as of 2022 compared to 2020. GHG emissions targets by 2030 are 25% lower than in 2020, and carbon neutrality is to be achieved by 2050.

Corporate Sustainability	Objectives
RE100	• Not yet joined RE100 as of July 2023. • By 2030, renewable energy will account for more than 5% of total electricity consumption. • It is planned to install an additional 34,089kWp of solar power generation facilities by 2025, by which time the installed capacity of solar power will reach 43,400kWp, more than four times the current installed capacity.
EV100	Not yet joined EV100 as of July 2023.
Carbon Disclosure Mechanism	• CDP: Participated in the CDP Climate Change Questionnaire and was awarded the Management Level A- rating. • TCFD: Adopted TCFD framework in the report. • GHG inventory & management: The Yunlin Mailiao plant is verified by the British Standards Institution (BSI); other Taiwan plants are inspected by Taiwan-based testing services provider SGS for GHG inventories.
Carbon Pricing	No information publicly available.

Green Mark Acquisition

TUV validated for recycled materials

Passed EU RoHS requirements

Green Manufacturing

Green Sourcing

- Gradually building a green supply chain by raising the amount of green procurement to promote environmentally sustainable joint development.

Green Process

Multi-programs for carbon reduction

Energy Transition

- The company set up ESG Promotion Group and other energy saving, carbon reduction and pollution control organizations to formulate policies on water and energy saving, pollution control, and waste reduction in manufacturing processes.
- Developing renewable energy sources, such as solar energy and hydroelectricity, to increase the share of renewable energy use.
- Investing in renewable energy facilities in line with the government's policy of increasing the share of renewable energy in power generation. Investee Chia Nan Industrial Co, invested in three hydroelectric power plants at Wushantou Reservoir, i.e., Wushantou, Xikou, and Hatta. It also engaged in the Taiwan Water Corp's pipeline-type small hydroelectric power generation project and was awarded a contract for a small hydroelectric power plant at the Shalu Water Distribution Center.
- Increases green power usage by installing more green power facilities. Conducts process integration and switches to high-efficiency equipment or technology to boost energy efficiency.

Water Resource Management

- Actively involved in process improvement and water resource management to bolster water efficiency.
- Increases recovery of process wastewater and rainwater, and reuses and recycles water resources.
- Manages the use and discharge of water resources.

Waste Management

- For waste disposal, FCFC selects a waste removal and treatment company that has obtained a certificate to handle waste.
- Production Process Waste: Recycling and reuse of plastics in the factory to lower the input of raw materials and manage from the source. Constantly executes energy-saving improvement projects to reduce the amount of sludge from manufacturing processes. Civil and construction wastes are reused after outsourced physical treatment, and are used as materials for public works and civil engineering projects, which are handled at the end of the process.

Circular Economy

Waste reduction and recycling, establishment of circular economy

- Continues to embark on the recovery of marine waste made of nylon, and then turns it into recycled nylon pellets and recycled nylon yarn; recovers 100% of the waste from the plastic pellet manufacturing process, and then turns it into recycled plastic pellets.
- Adopting the notion of circular economy, recycling waste products as raw materials, developing high-value low-carbon products, and cutting down the carbon footprint of the products.

Formosa Taffeta Co., Ltd.

Company Profile (Honors)

- Headquartered in Douliu City, Yunlin County, the company's flagship products include the production and sale of nylon fabrics, nylon curtain fabrics, cotton fabrics, and special woven fabrics, as well as tire cords and petrol station operations, making it the largest manufacturer of tire cords in Taiwan, and a globally renowned maker of functional fabrics.
- Corporate Sustainability Strategies: Achieve synergy between expertise and environmental protection; innovate green processes and products; promote lean production; enhance resource efficiency; use environmentally friendly materials and green equipment; supply eco-safe products; and grow sustainably to meet stakeholder expectations.

Type	Public
Founded	1973
Industry	Textile & garment
Products/Services	Polyamide fabrics, polyester fabrics, tire cords, cotton yarns, spun rayon, synthetic yarns, blended yarns, textile dyeing and finishing, garments, quilts, bed sheets, etc. and their related products; manufacture of polymer products, bullet-proof vests, jackets, and industrial workwear.

Corporate Sustainability	Objectives
SBTi	• Joined in July 2022 and passed the SBTi target review in May 2023. Committed to achieving a 26.3% reduction in GHG Scope 1 and Scope 2 combined and a 20% reduction in Scope 3 by 2027, with 2019 as the baseline year, and continuing to work towards the goal of achieving carbon neutrality by 2050.

Corporate Sustainability	Objectives
RE100	• Not yet joined RE100 as of July 2023. • To expand the scale of solar power generation, the Vietnam Long An plant completed Phase 2 totaling 2,750Kwh, and the Taiwan plant completed Phase 1 totaling 2,600Kwh, in order to reduce carbon emissions by adopting renewable energy as a substitute.
EV100	Not yet joined EV100 as of July 2023.
Carbon Disclosure Mechanism	• TCFD: Signed up as a TCFD supporter at the end of 2020 and follows the TCFD guidelines to disclose the strategies and measures taken to address climate change. • GHG inventory & management: Established systematic GHG inventory procedures, reduction plans, management and system audit procedures under ISO standards and the GHG Protocol of the WBCSD. Then, promotes continual and effective GHG emission management based on the inventory results as the basis for the voluntary GHG reduction plan combined with the PDCA cycle management. The Taiwan plant has been conducting GHG inventories for many years. The other four plants outside of Taiwan were subject to inventories for the first time in 2022, and are scheduled to complete third-party validation. • CDP: Received "Leadership" rating from CDP for the third consecutive year. Earned the highest honor of "A" for Climate Change and "A-" for Leadership in Water Security in 2022.
Carbon Pricing	• Implemented an internal carbon pricing mechanism in 2018, with a price of NT$1,500 per tonne set by reference to the Greenhouse Gas Reduction and Management Act, for internal assessment of related GHG risks and opportunities. • Internal carbon pricing was calculated in Q1 2022 based on NT$100 per tonne of emissions and NT$1,500 per tonne above target emissions. The carbon emissions for Q1 2022 were 8,932 tonnes less than the target, with 2019 as the baseline year and based on a projected 2.5% reduction per year.

Green Mark Acquisition

Subscribed over 1 million kWh of electricity and was certified by MOEA

Received "Leadership" rating from CDP for three consecutive years

Green Manufacturing

Sustainable Sourcing

Supplier Raw Material Management and ESG Assessment

- Giving priority to products that obey the international environmental regulations in the procurement of materials, and cooperating with the R&D department to develop and procure high-efficiency dyes, aiming to cut down the amount of dyestuff for subsequent environmental maintenance, wastewater treatment, and energy conservation.
- Suppliers are strictly required to meet the requirements of Oeko Tex Standard 100, EU REACH substances of very high concern (SVHC) content control guarantee, and so on.
- Regularly evaluates the suppliers and visits the factories from time to time to assess whether the suppliers' processes and raw materials conform to the government's environmental laws and regulations and the ESG commitments. Ceases trading with suppliers that are in violation of government environmental laws and regulations to ensure the safety of raw materials purchased.

Green Manufacturing

Multi-programs for carbon reduction

Energy Management

- To create a circular economy of energy saving and emission reduction, the Taiwan plant adopted the ISO 50001 Energy Management System in 2015 to minimize direct and indirect energy consumption and wastage, keep abreast of energy conversion needs, improve energy efficiency and enhance energy reuse.
- Installing renewable energy power generation facilities to lower carbon emissions and continuously pushing for energy conservation projects to lessen the impact of operations on the environment.

Air Pollution Reduction

- Conducts organizational GHG inventories and voluntary reduction programs, management of ozone depleting substances (ODS), and environmental monitoring and testing.

Water Resource Management

- Reducing Water Consumption: Adopting new technology and equipment to produce fabrics and dyeing with the lowest liquid ratio.
- Recycling: Adopting energy-saving equipment and recovering and recycling process steam condensate, washing machine cooling water, and low-pollution process water.
- Reuse: Recovering process wastewater or steam.
- Setting standards for water pollution control per government environmental laws and regulations, and executing in-plant wastewater reduction, strict wastewater discharge management, and setting standards for wastewater discharge.

Waste Management

- Executes waste removal and treatment, promotes waste reduction measures, established "Waste Disposal Management Guidelines," and uses reusable materials in place of disposable ones.
- Purchasing sludge drying equipment to reduce the water content of waste sludge.
- Setting reduction targets, counting occurrences, reviewing departmental reduction performance on a regular basis, looking into the causes of waste generation, and adopting measures to reduce or eliminate waste, such as: optimizing production processes, reusing the materials or packaging materials, and recycling auxiliary agent drums by suppliers.

Transport Packaging

Cooperating with suppliers to reduce packaging materials and use eco-friendly packaging materials

- If the usage of auxiliary agents hits the economic lot size (4,000kg per month), the company has reached an agreement with the suppliers, requiring them to switch to large packages (capacity: 1,000kg) for delivery and recycling so as to lower the amount of packaging materials used.
- Negotiating with suppliers to use eco-friendly, hazard-free and recyclable materials as packaging materials for raw materials.

Design for Use

- Cooperating with R&D department to develop and procure high-efficiency dyestuffs in order to reduce dyestuffs used for environmental maintenance, wastewater reduction, and energy conservation.
- Developing marine recycled polyester, recycled fishing nets and recycled oyster rope polyamine fabrics.

Fu Hsun Fiber Industries Co., Ltd.

Company Profile (Honors)

- Founded in 1963, Fu Hsun is engaged in warping, knitting, dyeing and finishing, with its headquarters located at Tacheng St., Datong Dist., Taipei City and factories in Vietnam.
- Fu Hsun was awarded the 6th (2020) Potential Mittelstand and Excellent Mittelstand for Creating Friendly Workplaces by the Industrial Development Bureau of the MOEA, in which the recycled wood chips and yarn received the EPA Green Mark and the fabrics were certified in compliance with the global recycling standards.
- Fu Hsun has passed many green product and other certifications, including ISO 14001, ISO 45001 and Oeko-Tex Standard 100.

Type	Limited by shares
Founded	1963
Industry	Textile & garment (printing, dyeing & finishing)
Products/Services	Textile fabrics and garments

Corporate Sustainability	Objectives
SBTi	• Joined SBTi in 2022.

Green Mark Acquisition

- ISO 14001 Environmental Management System
- ISO 45001:2018 Occupational Safety & Health Management Standard

Oeko-Tex Standard 100

Global Recycle Standard

Taiwan EPA's Green Mark

Green Manufacturing

Green Process

Production Management

- Continuously evaluates and adopts new products and methods to cut down on resource consumption and waste emissions, including the use of water-soluble dyes, water repellents free of PFOA and PFOS, wastewater recycling, and Greenpeace hazardous chemicals with zero carbon emissions.

Waste Management

- Since 2008, Fu Hsun has been offering polyester chips, yarns and fabrics made from recycled plastic bottles, which are recycled into textiles while reducing waste and crude oil consumption.

Grape King Bio Ltd.

Company Profile (Honors)

- GRAPE KING BIO has its own brand of health food and functional drinks, and also provides ODM/OEM services for health food and pharmaceutical products. To maintain a sustainable environment for the next generation, GRAPE KING BIO's headquarters in Pingzhen is certified under the ISO 14001 environmental management system and has adopted a PDCA operation to continuously promote various environmental protection measures.
- It introduced the ISO 50001 energy management system in 2019 and joined the RE100 green initiative, committing to 100% renewable energy use by 2035.

Type	Limited by shares
Founded	1969
Industry	Food
Products/Services	Nutraceuticals, food products, functional beverages

Corporate Sustainability	Objectives
SBTi	• Join SBTi in 2023, and committed to set SBT target. • Plans to set a Science Based Targets (SBTi) commitment by 2023 and establish a 1.5°C target by 2024.
RE100	• Joined the RE100 initiative in 2019 and committed to 15% renewable energy use in Phase 1 by 2030 and 100% in Phase 2 by 2035. • Other energy and conservation targets include an electricity saving rate of 1.4% and a solar generation capacity of over 100 kW by 2024, and 1.5% and over 150 kW from 2025 onwards.
EV100	Not a member of the EV100 initiative as of July 2023.

Corporate Sustainability	Objectives
Carbon Disclosure Mechanism	• Since 2014, it has compiled in-house sustainability reports in line with the GRI Standards and the SASB Standards for the “Personal & Household Goods Industry” and “Processed Food Industry.” • In 2020, the company started adopting TCFD to identify and respond to climate risks and opportunities, and in 2021, it became the first company in the health care industry in Taiwan to officially sign the TCFD Supporter. • In 2022, the company expects to launch a factory-wide ISO 14064 inventory.
Carbon Pricing	No information publicly available.

Green Mark Acquisition

Taiwan Corporate Sustainability Awards (TCSA)

Green Manufacturing

Responsible Sourcing

Supplier ESG Assessment

- Annual assessments are conducted regularly for suppliers of raw materials and outsourced factories that have transactions, with 21 ESG-related assessments out of 144 being carried out. A total of 91 key suppliers were issued with ESG self-assessment questionnaires in 2021, and all suppliers achieved a 100% pass rate on the 21 ESG-related assessment items.
- Promotes local sourcing, lowers the carbon footprint of raw materials, and gives priority to suppliers who provide green products, value food safety and environmental protection, and protect labor rights.

Green Manufacturing

Diversified Programs for Carbon Reduction

Energy Efficiency & Renewable Energy

- Introduced and certified to ISO 14000 environmental management system in 2017.
- Signed a two-year 900,000 kWh green power (solar) purchase contract with a renewable-energy-based electricity retailing enterprise in 2021.
- Renewable energy usage at GRAPE KING BIO's Taiwan plant will reach 1% by 2022 and 2% by 2023.

Water Resource Treatment

- Sewage is treated at appropriate wastewater treatment facilities and the water quality is regularly tested to ensure compliance with government regulations. In 2021, 100% of the wastewater was discharged in accordance with the statutory standards and better than the average effluent standards for chemical oxygen demand (COD) by 30%, and the reduction rate of the combined wastewater discharge was ≥ 3% in 2021.

- Total water savings of 13,950 T and a reduction of approx. 2,093 kg of CO_2 in 2021 were achieved through steam condensate recovery equipment and water conservation measures to boost water resource usage.

Waste Disposal

- With the 3Rs (Reduce, Recycle, Reuse) principle in mind, the company is further optimizing the waste sorting process in its environmental projects and trying to recreate the value of waste sludge. In 2020, it introduced food industry sludge as a source of organic fertilizer to enhance the reuse of waste and lessen the burden on the environment.
- Passed the environmental certification ISO14001 and other management system certification.

Eco-friendly Packaging

Adopting Green Packaging Materials to Mitigate Environmental Impact

- GRAPE KING BIO has long been devoted to the design of lightweight, eco-friendly materials for packaging to minimize environmental hazards, using aluminum cans or environmentally responsible materials.
- The retort pouch range is produced using 100% FSCTM certified green pulp to ensure that the paper is sourced from proper and correctly managed forests to avoid indiscriminate tree felling.

End Treatment

Easily Recyclable Product Plastic Pellet

- Starting from 2019, a number of its products are made from recyclable plastic bottles, and the recycled empty bottles are broken down into plastic pellets by the environmental service provider and supplied to certified environmental manufacturers for reuse in production.
- Requires environmental manufacturers to provide information on the flow of plastic pellets for verification by GRAPE KING BIO to ensure that plastic pellets can be reused in other forms by consumers.

Hair O'right International Corp.

Company Profile (Honors)

- O'right's hair and make-up products are made from organic ingredients and are developed, designed and manufactured in line with environmental standards, and are certified to international standards such as the Carbon Footprint Label, Water Footprint Label, Carbon Neutral and Cradle to Cradle (C2C).
- Its products have won numerous global environmental awards, including the Global Sustainable Beauty Awards in Paris for five consecutive years, the Global Green Awards in the UK for five times, and the 18th Global Views Monthly's CSR and ESG Corporate Social Responsibility Awards in 2022.

Type	Limited by shares
Founded	2001
Industry	Hair & makeup products
Products/Services	Manufacture and sale of green hair and make-up products

Corporate Sustainability	Objectives
SBTi	• Joined SBTi in 2022 to realize a carbon reduction, and the Science Based Targets initiative (SBTi) review was approved with target of well below 1.5°C by 2030. • Reduce scope 1+2+3 emissions 90% by 2045 with 2020 as the base year. • Achieved full product and organizational carbon neutrality in 2020, as verified by SGS.
RE100	• Joined RE100 in 2018. • Aims to achieve 100% renewable energy use by 2025.
EV100	Not a member of the EV100 initiative in July 2023.

Corporate Sustainability	Objectives
Carbon Disclosure Mechanism	• TCFD is introduced in 2022, incorporating the benefits of environmental and climate change risk control into the evaluation; O'right will form an interdepartmental task force to develop the TCFD disclosures. • GHG inventory & management: Passed the ISO 14064 GHG inventory in 2016.
Carbon Pricing	No information publicly available.

Green Mark Acquisition

UK Carbon Trust Carbon Trust PAS2050 Product Carbon Footprint Certification

UK BSI PAS2060 Product Carbon Neutral Certification

MOEA Green Factory Certification

Product Carbon Footprint Label

Cradle to Cradle Certification

Diamond Green Building Carbon Footprint Certification

Taiwan EEWH Green Building Gold Certification

Green Manufacturing

Responsible Sourcing

Green Sourcing

- The proportion of green materials purchased has been maintained at about 85% since 2018.
- Invites suppliers to join the green industry and has signed the "Supplier CSR Code of Conduct Pledge" with new suppliers since 2015.
- Cooperation priority will be given to suppliers who comply with CSR practices such as environmental protection, labor regulations and social engagement.

Green Manufacturing

Green Energy & Green Buildings

Renewable Energy Use

- Generates electricity by wind and solar energy, the company has generated a total of 454,029 kWh of green electricity since its activation and aims to achieve its RE100 target of 100% renewable energy use by 2025.
- Low carbon office design: LED lights are used throughout the factory and a full heat exchange and CO_2 detection system are installed to exchange air and reduce air conditioning use.

Water Resource Treatment

- Inventorying the company's water footprint and planning a water recycling system.
- Sink improvement program to reduce water consumption.
- Process wastewater recovery rate of nearly 80% in 2020, with wastewater COD values falling below 50, meeting watering standards.

Waste Disposal

- The waste is transported by a qualified clearance operator for incineration.
- All infectious industrial waste generated from laboratory operations is incinerated by a licensed operator.

Transport Packaging

Packaging Materials with Reduced Carbon and Plastic

- The raw materials are third party certified, such as organic certified raw materials and FSC certified paper, etc. Since 2017, it has undergone a complete transformation from using petroleum to make shampoo bottles and using new petroleum plastic bottles to adopting recycled material PCR.
- It is now working with a number of eco-friendly plastic companies to completely transform cosmetic and composite materials into recyclable packaging materials.
- O'right has successfully built up a supply chain of rPE, rPP, rPET, rPETG and is proposing composite, de-plated packaging that allows packaging materials to enter the recycling system.

Design for Use

Sustainable Products from Pure Materials

- Uses finely ground natural cypress powder instead of plastic microbeads.
- Uses sustainably sourced ingredients in the formulations wherever possible and labels the percentage thereof in the products.
- Launched 8Free in 2012, rejecting the use of 8 common harmful substances.

End Treatment

Recyclable Packaging Materials & Recycling Systems

- Three types of recycling are planned: recycling of empty bottle cartons, finished product cartons, and empty bottles of products.
- Consumers can recycle their bottles through the recycling system and have them cleaned by the bottle manufacturer to make new ones for reuse.

Jola International Co., Ltd.

Company Profile (Honors)

- JOLA has been operating in the European skin care market for many years, with popular facial mask brand TTM under its umbrella, aiming to launch Taiwanese brands on the European market.
- By applying the most stringent cosmetic registration system, the EU PIF, as a manufacturing standard, and ensuring that all products are evaluated in numerous ways, including EU safety assessments, human skin testing, SGS inspections and Intertek quality testing, JOLA reinforces the safety and efficacy of the products, as well as the non-toxicity and non-harmfulness of all ingredients.

Type	Limited by shares
Founded	2011
Industry	Beauty & care
Products/Services	Cosmetics R&D and retail

Corporate Sustainability	Objectives
RE100	• Joined RE100 in 2021. • Plans to achieve 100% use of green electricity by 2030 through the procurement of green energy and the construction of in-house renewable energy generation facilities for energy transformation.

Green Manufacturing

Green Manufacturing

Corporate Green Building Design & Construction

Energy Management

- The R&D laboratory Jolab focuses on energy saving and carbon reduction. In addition to using special building materials to insulate the building and reduce UV rays, green planting is utilized to create a breathing factory.
- In 2021, Jolab was accepted into the World Architecture Festival 2021 shortlist for the best sustainable green building factory.

Transport Packaging

Recyclable Packaging Materials

- JOLA emphasize on creating green products, in addition to using recyclable materials for bottles and cans, products are also made available in large capacities to avoid over-packaging. JOLA also focuses on green sourcing and environmental certification.

King Yuan Fu Packaging Co., Ltd.

Company Profile (Honors)

- King Yuan Fu products are supplied to many well-known food manufacturers in Taiwan and exported to other countries. In line with its commitment to environmental protection, King Yuan Fu has teamed up with domestic plastic material manufacturers to invest in the development of eco-friendly materials and passed the RE100 audit in 2021.
- The company's mission is to be a long-term and trusted provider of sustainable packaging design and production capacity to the global packaging industry.

Type	Limited by shares
Founded	1978
Industry	Plastic packaging
Products/Services	Vacuum & pressure forming containers

Corporate Sustainability	Objectives
SBTi	Not a member of the SBTi initiative as of July 2023.
RE100	• It announced in 2021 that it had joined RE100 and committed to achieving 60%, 90% and 100% use of green electricity by 2030, 2040 and 2050 respectively. • It is to introduce the ISO 50001 energy management system in 2022, supplemented by in-plant and supplier energy saving programs and the procurement of green power to achieve the RE100 target step by step. • It is dedicated to meeting the RE100 pledge by using solar panels to generate electricity and purchasing Renewable Energy Certificates (RECs) and entering into Power Purchase Agreements (PPAs) to increase the proportion of green electricity.

Corporate Sustainability	Objectives
EV100	Not a member of the EV100 initiative as of July 2023.
Carbon Disclosure Mechanism	• It prepared the first UN Sustainable Development Goals (SDGs) report and created an ESG Committee in 2019. • GHG inventory & management: Introduced the ISO 14064-1 GHG inventory and the ISO 14067 product carbon footprint inventory in 2021.
Carbon Pricing	No information publicly available.

Green Mark Acquisition

Yushan National Quality Award
Outstanding Enterprise
/ Best Product Award

Taiwan Sustainability Action Awards
(TSAA) -Silver

EPA Outstanding Enterprise for
Resource Recycling - 2 Stars

PwC Sustainability
Impact Award- Finalist

Green Manufacturing

Diversified Programs for Carbon Reduction

Carbon Emissions Inventory

- Received ISO 14064-1 GHG Inventory Certification for three plants in 2021.
- Received ISO14067 product carbon footprint certification for two products.

Energy Efficiency & Renewable Energy

- It reduces energy consumption and builds renewable energy facilities to mitigate the environmental impact of the greenhouse effect. In 2021, it added solar power generation facilities to the parking bays for cars and scooters and the top floors of office buildings at the Dongshan plant, with total green energy generation accounting for 1.22% of total electricity consumption in 2021.
- It planned to introduce the ISO 50001 energy management system by 2022, with a reduction of 1,606 kWh/t of finished product per unit of electricity consumed compared to the previous year.

Waste Disposal & Recyclin

- The leftover materials from the process are recycled, torn up and reused to reduce the pollution and waste of raw material resources, with a reuse rate of 42% for shredded materials in 2021.
- It set targets for 2022, including a 40% target for recycling of shredded material, a 92% target for cutting oil reuse and a reduction of 7.6kg/t of finished product in industrial waste per unit compared to the previous year.

Design for Use

Closed Loop Material Use

- With the concept of circular economy, it created the aGain brand to promote R-PET products and the "box to box" closed-loop cycle to reduce carbon emissions from new material extraction.
- It has set a target for annual growth in the use of R-PET, with a rate of 16% in 2021.
- It reduces the thickness of the product without compromising its functionality to achieve a reduction in usage.

Environmental Sustainability

Adopting Forest Land for Local Ecology

- In 2009, it started afforestation in Yilan in collaboration with the Forestry Bureau, with 11.9 hectares of land afforested and about 12,474 trees planted, absorbing about 132,000 kg (132 tonnes) of carbon dioxide per year.
- At the end of 2019, it signed a four-year contract with the Forestry Bureau to adopt two planted sections of the Four Beasts Trail, covering 1.21 hectares and absorbing about 14.52 tonnes of carbon emissions.

Kingwhale Corporation

Company Profile (Honors)

- Kingwhale has a strong presence in Taiwan. At a time when the world is urging industries to use green power and transform their energy sources to mitigate climate risk, Kingwhale is also looking at materials, processes and energy policies that cushion environmental impact from all angles.
- Kingwhale is an EU eco-friendly Bluesign certified textile manufacturer.

Type	Limited by shares
Founded	1992
Industry	Textile & garment
Products/Services	Brushed fabrics, outdoor sportswear fabrics

Corporate Sustainability	Objectives
SBTi	Not a member of the SBTi initiative as of July 2023.
RE100	• In 2020, it announced that it had joined RE100, becoming the first textile manufacturer in Asia to adopt RE100 and commit to 100% renewable electricity procurement by 2040. • It is committed to fulfilling the RE100 pledge by building solar power plants and purchasing renewable energy certificates to work towards its carbon neutrality target.

Green Mark Acquisition

bluesign

Oeko-Tex Standard 100

Global Recycled Standard (GRS)

Higg Index Verification

Ethical Down Label

Ethical Wool Label

Green Manufacturing

Green Manufacturing

Active Use of Green Energy to Reduce Carbon

Energy Efficiency & Renewable Energy

- Optimizes the management of energy volatility on production lines to reduce consumption, installs inverters to improve the energy consumption of production and plant equipment, and installs energy feedback units on mobile facilities such as elevators.
- Increases the thermal energy recovery rate to 70% by 2040.
- To increase the proportion of green electricity, solar power generation devices have been installed at the Taoyuan Dayuan plant and an energy monitoring management system has been set up. The Taiwan Association of Green Energy Transition (TAGET) was established to promote the importance of green power and to build consensus among buyers and sellers through communication and coordination in the green power market.

- By accessing the Taiwan Renewable Energy Certificate (T-REC) platform of the Ministry of Economic Affairs, Bureau of Standards, Metrology and Inspection, and partnering with the APX TIGRs, an international green electricity certification authority, the company purchases green electricity at T-RECs.ai, a RE100-accredited platform. Kingwhale's Vietnamese garment factory has purchased RECs through T-RECs.ai to move towards its carbon neutrality goal.

Design for Use

Developing New Materials, Redefining Product Sustainability

Product Sustainability

- Improving recyclability: Materials, types and styles of garments must be designed for easy recycling.
- Promoting sustainable product traceability: Showing the percentage of green energy and carbon reduction.
- Reinventing a market demand model: Transforming the value of sustainable contributions to the end consumer needs.

Materials

- Developed solution-dyed yarn, biodegradable and biomass products.
- The L.I.T.® Low Impact Technology has been developed in-house to modify the molecular structure of polyester fibers, enabling the dyeing process to use 60% less water, 15% less dye and 22% less electrical energy to heat and cool.
- Used garments are recycled and re-drawn, spun and woven into new fabrics, reducing the textile industry's dependence on oil for its fibers.
- The target is for 100% of products to be made from recycled materials and 100% of products to be recycled by 2040.

Taiwan Cement Corporation

Company Profile (Honors)

- TCC is a mining company focusing on cement production, with "resource recycling, green energy and low-carbon cement" as its three core operations. Going forward, TCC is using innovative technology and thinking to develop new energy sources, moving towards a "zero-waste, zero-pollution, zero-emission" circular economy and creating new values for a sustainable enterprise.
- The company has been awarded the Sustainalytics ESG Top-Rated Company badge for three consecutive years since 2020, a B grade for the 2021 CDP Project, and 11 awards, including the GCSA awards and the TCSA awards.

Type	Limited by shares
Founded	1954 (privatization year)
Industry	Cement
Products/Services	Manufacture and distribution of cement, cement products, paper bags and paper

Corporate Sustainability	Objectives
SBTi	• Achieved SBTi target set for 2020 with climate target of well below 2°C by 2025. • Targets (2016 as base year) – 2025: 11% reduction in Scope 1 emissions intensity and 32% reduction in Scope 2 emissions intensity. – 2030: 32% reduction in emissions intensity in Taiwan and 20% reduction in Mainland China, subject to legislation, alternative fuels permits and market demand. – 2050: Group concrete carbon neutrality.
RE100	• Not a member of the RE100 initiative as of July 2023. • It aims to achieve 10% biofuel use by 2025 and to build 500MW of renewable energy plants by 2030.

Corporate Sustainability	Objectives
EV100	• Not a member of the EV100 initiative as of July 2023. • Installs charging piles at headquarters and purchases electric vehicles for business purposes on an annual basis.
Carbon Disclosure Mechanism	• TCFD: In 2019, it signed up to become TCFD a supporter and in 2020, it introduced the TCFD framework to form an interdepartmental working group to systematically identify climate risks and opportunities, integrate existing risk management procedures and improve the climate change management system. • GHG inventory & management: The TCC cement plant has completed 100% of the ISO 14064 GHG inventory and external verification, and has been audited against international standards to meet the science-based carbon reduction targets.
Carbon Pricing	• It sets an internal carbon price for capital expenditure assessment by referring to external carbon price trends and incorporating internal carbon emission intensity, and uses this price for 100% of its plant production equipment to assess the effectiveness of the reduction.

Green Mark Acquisition

Taiwan Green Mark

Taiwan Carbon Label

Taiwan EEWH Green Building Diamond Grade

Green Manufacturing

Responsible Sourcing

Local Sourcing & Supplier Management

- Amended the "Supplier Management Policy" and "Code of Conduct for Suppliers" in 2020 to clearly reveal the principles and systems of supplier management, as well as important policies on legal mining, local sourcing and green procurement.
- In line with the principle of local development and local supply, it actively develops local suppliers and carries out local sourcing; the proportion of local sourcing reached 90% in total in 2020.
- TCC Head Office and manufacturing plants in Kaohsiung, Xiaogang, Lujhu, Tainan, Anping, Shanhua and Chiayi were named the 2019 Annual Green Procurement Excellence Unit.

Green Manufacturing

Green Generation & Carbon Capture

Energy Management

- In response to EP100's efforts to raise energy efficiency, the cement plants have all been fitted with waste heat generation systems and introduced flash evaporation technology to boost heat recovery efficiency; the residual heat generation capacity in 2020 reached 119.024 million kWh, equivalent to 29% of the electricity purchased in 2020, reducing CO_2 emissions by approx. 60,000 tonnes.
- Starting from 2020, the TCCDAKA Eco-Recycling Plant, Hualien Heping Circular Economy Park, Suao Plant, Kaohsiung Plant and the Group's subsidiary, E-One Moli Energy Corp, were equipped with 601.12kW of additional solar power generation equipment. The accumulated solar power generation capacity was approx. 314,000 kWh by the end of 2020, which reduced 160 tonnes of CO_2 equivalent GHG emissions.

- Introduced ISO 50001 energy management system and regularly certified to ISO management system to review management performance and maintain certificate validity.
- Uses carbon capture, utilization, and storage (CCUS) to capture CO_2 and extend the carbon economic cycle, aiming to capture 100,000 tonnes of CO_2 per year by 2030 and 1.6 million tonnes by 2050.

Water Resource Treatment

- All cement plants have passed the ISO 14046 water footprint inventory.
- In 2021, the cement plant further planned the construction of a wastewater reuse project, which included the recycling of mine tunnel leachate, the plant's domestic sewage treatment system (MBR bio-membrane treatment) and the collection of drainage outside the cooling water tower to enhance water management intensity.
- Rainwater and process water recycling and purification facilities are in place. 100% of the water resources are not discharged or wasted and are recycled for cleaning purposes.

Waste Disposal

- General and hazardous industrial waste is destroyed through the process at high temperatures and returned to the process for recycling, while valuable industrial waste is regularly collected by a qualified clearance operator.

Transport Packaging

Green Transport

- TCC's corporate transport planning priorities the use of turn-back trucks/vessels to implement green transport, with priority given to suppliers that are compatible with green logistics.
- Suppliers of transport services are required to upgrade their vehicles to Taiwan's Phase 4 and 5 environment-friendly vehicles; for Phase 3 vehicles, TCC will further require and advise on the retrofitting of diesel smoke filters.
- The use of fuel oil on board ships must comply with international and local regulations.

Design for Use

Green Product

- Completed the EPA Carbon Footprint Label certification.
- Obtained TAF Laboratory Certificate of Conformity for 6 items of raw material: cement, sand and gravel, slag, fly ash, pharmaceuticals and mixing water.
- Obtained six third-party certifications: Concrete Specimen Compressive Strength Report, GRMC Concrete Quality Mark, ISO 9001, ISO 14001, ISO 45001, TCRI Product Traceability Certification.

Nan Ya Plastics Corporation

Company Profile (Honors)

- Nan Ya Plastics, one of the major units of Formosa Plastics Group, specializes in plastics, petrochemicals, electronic materials and polyester fibers, as well as power distribution panels, and is listed as a constituent of the Taiwan 50 Index.
- Its products consist of four major categories: plastic products, plastic raw materials, electronic materials and polyester products, which are distributed throughout its domestic plants and extended to production bases in China, Vietnam, Indonesia, and the U.S.
- Nan Ya Plastics has received numerous green product and other certifications, including ISO 9001, ISO 14001, ISO 45001:2018, TOSHMS, ISO 50001 and ISO 14064.

Type	Public
Founded	1958
Industry	Plastic processing
Products/Services	Manufacture, sale, dyeing and finishing of processed plastics, plastic raw materials, electronic materials and polyester fibers.

Corporate Sustainability	Objectives
SBTi	• Joined SBTi in 2023 and submitted a carbon reduction commitment to keep warming well below 2°C by 2027. • Medium-term targets (1-3 years): Reduce GHG emissions in Scopes 1 and 2 by 15% by 2027 from the baseline year of 2021, and pledge to cut GHG emissions in Scope 3 by 7.4% within the same timeframe.

Corporate Sustainability	Objectives
Carbon Disclosure Mechanism	• TCFD: Joined TCFD in 2021, assessed the relevance of climate change to business activities through TCFD, and integrated risk management with climate impact scenario analysis to further disclose the resilience to climate change. • CDP: Grade A (Leadership) in "Climate Change" and "Water Safety" questionnaires.

Green Mark Acquisition

- ISO 9001 Quality Management System
- ISO 14001 Environmental Management System
- ISO 45001: 2018 Occupational Safety and Health Management Standard
- ISO 14064 Greenhouse Gas Accounting & Verification

Green Manufacturing

Sustainable Sourcing

- SQAS-certified manufacturers shall install GPS or dashcam in each transport vehicle, and necessary safety protection equipment that has been regularly inspected and found acceptable according to the characteristics of dangerous goods. Manufacturers that do not pass the SQAS assessment are not permitted to undertake or pick up corporate dangerous goods.

Green Process

Energy Management

- Continuing to promote energy and water conservation projects, gradually increasing wastewater recycling and treatment facilities and improving the rainwater collection system.
- Switching from high carbon energy (coal and heavy oil) to low carbon energy (natural gas) and other low carbon energy technologies.
- Scheduled to gradually install solar energy facilities in the plants in the south where adequate sunlight is available.
- Installing renewable energy facilities with 8% of Taipower's contracted capacity.

Water Resource Management (Water Pollution Control Management)

- For wastewater collection, transport and treatment facilities, setting up operation control and monitoring, promoting wastewater reduction operations, and creating a database of VOC fingerprints.

Air Pollution Management

- Performing regular in-plant environmental inspections through autonomous inspection and automatic monitoring facilities, such as autonomous audits, equipment component checks, tank VOC sampling and analysis, in order to meet or go beyond the national standards. Installing continuous emission monitoring system (CEMS) for large-scale emission sources with real-time computer monitoring, carrying out regular air quality monitoring and joint inspection of odor, and setting up a VOC fingerprint database.
- Completed internal auditing and third-party external verification of GHG emissions.

Waste Management

- With the goal of sustainable use of resources and rationalization of the associated clean-up costs, management is based on process waste reduction, followed by reuse, with incineration and landfill as the last resort.
- Properly sorts the waste produced and stores it in the designated place as required. Keeps a check on the removal and disposal of waste through computer-controlled operations, completes the reporting process as specified, and reviews and proposes improvement measures for departments with a disposal volume that exceeds the control level.
- Current status EO process generates CO_2 as side reaction, and the steam stripping CO_2 amounts to 380,000 tonnes, part of which is sold, and it is planned to recycle, reuse and reduce the amount of CO_2 at the source to achieve complete recycling and zero emission.
- MLCC Release Film Recycling: Recycling capacity of 600 tonnes/month, 100% of the release film sold to domestic MLCC customers recyclable.

Management of Toxic Chemicals

- Committed to preventing environmental pollution and health hazards caused by leakage, and to promoting management measures such as reduction and computer-control operations.

Green Materials / Design for Use

- Replacing petrochemical feedstocks with PLA (polylactic acid, corn, sugarcane, or their residues) to produce packaging film.

Promax Textile Co.,Ltd.

Company Profile (Honors)

- Promax keeps on innovating in the field of functional and new fabrics, providing customers with innovative products that are at the cutting edge of design, based on its commitment to quality and sustainability.
- Its production bases are located in Tainan, Taiwan and Ho Chi Minh, Vietnam, with the Tainan plant occupying over 80,000 square meters of floor space. Boasting the world's most advanced and environmentally sustainable manufacturing technology, the company supplies the polyester synthetic fabrics and nylon synthetic fabrics of the highest caliber to a number of major international sports brands.
- Promax adopts a zero-wastewater discharge recycling system, uses biomass energy to reduce carbon emissions, and plans to use solar panels to generate green energy.

Type	Limited by shares
Founded	1991
Industry	Textile
Products/Services	Functional and novel fabrics and apparel products

Corporate Sustainability	Objectives
SBTi	• Joined SBTi in 2022.

Green Manufacturing

Green Process

Energy Management

- Using biomass energy to reduce carbon emissions.
- Planning to use solar panels to generate green energy.

Water Resource Management

- Using zero wastewater discharge recycling system.

Green Materials / Design for Use

- Over 78% recycled polyester used in products.

TCI Co., Ltd.

Company Profile (Honors)

- Through a “bio-integrated design” approach, scientific research is used to create efficient products that improve the lives of consumers.
- Awarded the UK Green World Award and invited to become a Green World Ambassador in 2020.
- Awarded the Best Example of Sustainable Environment Award for the theme “Health products that integrate the three elements of sustainability: circular economy, renewable energy, net zero carbon emissions.”

Type	Limited by shares
Founded	1980
Industry	Medical biotechnology
Products/Services	Designing unique formulations and producing unique products for customers through differentiated product design and R&D technology

Corporate Sustainability	Objectives
SBTi	• Passed SBTi auditing in 2021. And the Science Based Targets initiative (SBTi) review was approved with target of well below 1.5°C by 2030. • Reduce GHG emissions intensity by 51% in Scopes 1 and 2 and Scope 3 emissions by 15% by 2030.
RE100	• Joined the RE100 initiative in 2018. • Achieved 30% renewable energy use by 2020. • Achieve 100% full use of renewable energy by 2030.

Corporate Sustainability	Objectives
EV100	Not a member of the EV100 initiative as of July 2023.
Carbon Disclosure Mechanism	• TCFD: A sustainability promotion committee is formed to analyze risks (including transformation risks and physical risks) and opportunities according to the TCFD guidelines framework, and to develop countermeasures and implement energy-saving and carbon-reduction management measures to enhance the ability to respond to and solve problems in the face of climate change. • GHG inventory & management: Annual ISO 14064-1 GHG inventory for all factories from 2018.
Carbon Pricing	No information publicly available.

Green Mark Acquisition

US Green Building Council
LEED Silver

Carbon Neutral PAS 2060

ECOCERT Organic Cosmetic

Green Manufacturing

Responsible Sourcing

Green Sourcing

- Suppliers are required to comply with the ISO 14001 environmental management system and the eco-management and audit system.
- Suppliers are required to take environmental action in four areas: environmental maintenance, hazardous materials labeling and safety practices, water management and GHG management policies.

Green Manufacturing

Green Energy & Green Buildings

Renewable Energy Use & Energy Management

- All factories are equipped with solar panels on the roof for their own use, and are committed to using green power for the manufacturing side, creating the world's first green face mask factory and achieving zero carbon manufacturing. A total of 1,362kWp of solar panels have been installed on the roof of the Panshi Production Center in the Pingtung Biotechnology Park for self-generation and self-use, with a total of 1,122,534 kWh generated in 2020.
- Continually develops renewable energy procurement strategies (self-generation, self-use, renewable energy certificates (RECs), renewable energy power purchase agreements (PPAs))
- Through the air conditioning energy saving improvement project, forestation and carbon reduction project and the purchase of forest carbon credits, it has achieved PAS 2060 carbon neutrality factory-wide and created a green manufacturing to produce net zero carbon sustainable products. The S5 and S9 Panshi functional beverage plants and the S11 Panshi eco-friendly face mask plant were certified as carbon neutral by the voluntary Gold Standard for GHG emission reduction.

- The factory design was fully certified to ISO 50001 energy management system and the S11 face mask factory obtained LEED green building certification from the United States Green Building Council (USGBC).

Water Resource Treatment

- TCI Pingtung Precision Manufacturing Center uses tap water for its industrial water supply. The S5 and S9 functional beverage and food plants are equipped with wastewater treatment facilities. The S5 functional beverage plant uses water with temperature return and has a water recovery capacity of approx. 60 tonnes of water per year.
- The S11 wastewater discharge from the green face mask factory is treated by the sewage treatment plant of the Pingtung Agricultural Biotechnology Park Administration Office.

Pollution & Waste Treatment

- It has an environmental safety and health management policy in place, which conforms to ISO 9001 Quality Management System and ISO 14001 Environmental Management System.
- Regularly reviews existing process contaminants treatment facilities and manufacturing processes, and regularly tests boiler equipment and discharge pipes to ensure that all emissions adhere to regulatory requirements.
- The production unit strictly enforces waste segregation and management. Valuable waste is sold through the purchasing department and recycled by external organizations, while non-valuable waste is entrusted to qualified operators for clearance.
- It aims to increase the recycling rate of process waste and reduce the amount of waste generated at source, and strictly examine the qualifications of waste treatment companies. In addition to GPS tracking, it also conducts random inspections of waste clearance and treatment from time to time.

Transport Packaging

Eco-Friendly Packaging Material & Reuse

- In terms of packaging materials, priority is given to environmentally friendly materials for recycling and avoiding over-packaging.
- It works with qualified contracted recyclers that collect packaging materials from its domestic customers, and then provide the packaging materials in good condition after treatment to its production sites for secondary use.

Design for Use

Localization & Circular Economy

- The company focuses on the value of localization, using Taiwan's native plants and fruits as targets for development and innovation, and acquiring agricultural by-products to extract potent ingredients and create high value-added products.
- It purchases secondary products from agricultural waste, such as peanut shell linings and banana peels, from farmers and food factories to extract their natural active substances and create a circular economy of agricultural biotech products.

Chunghwa Telecom Co. Ltd.

Company Profile (Honors)

- As the largest integrated telecoms company in Taiwan, its major services cover fixed-line telecoms, mobile telecoms, broadband access and the Internet. It also provides information and communications services to corporate customers with technical resources such as big data, cyber security, cloud and network data centers, and develops emerging technology services such as IoT and AI.
- In 2021, the company was ranked 11th in the Large Business Category of CommonWealth Magazine's World Sustainable Citizenship Awards, received the Taiwan Sustainability Action Award, the Taiwan Corporate Sustainability Award for the top 10 sustainable companies in Taiwan and won six individual performance awards, and was selected as a constituent stock of the Taiwan Index Plus Corp.

Type	Limited by shares
Founded	1996
Industry	Telecommunications
Products/Services	Telecoms and Internet service

Corporate Sustainability	Objectives
SBTi	• The SBT Carbon Reduction Commitment was introduced in 2021, and the Science Based Targets initiative (SBTi) review was approved with target of well below 1.5°C by 2030. • Target 50% reduction by 2030 (with 2020 as base year) and net zero emissions by 2050.
RE100	• Joined RE100 in 2023 with a commitment to achieve 100% renewable energy use by 2040. • Target 100% use of renewable energy in Internet Data Centers (IDCs) by 2030.
EV100	• Not a member of EV100 as of July 2023. • Targets 100% electrification of vehicles for business purposes by 2030.

Corporate Sustainability	Objectives
Carbon Disclosure Mechanism	• TCFD: TCFD was introduced in 2019 to analyze climate risks and opportunities, and to promote climate change adaptation and mitigation efforts to continue to reduce operational risks and lead the low carbon transformation of the supply chain. In 2021, Chunghwa Telecom was awarded the highest level of TCFD verification for the second consecutive year. • GHG inventory & management: The ISO 14064-1 GHG management system was introduced in 2008 to inventory the carbon emissions of buildings and base stations across the area, and has been externally verified annually. It was officially converted to ISO 14064-1:2018 in 2020. • Taiwan's first telecoms company to join the CDP supply chain project, inviting 67 suppliers to fill in carbon management information on an international platform.
Carbon Pricing	• An "internal carbon price" was introduced in phases from July 2022 and was calculated at NT$1,600 (approx. US$54) per tonne of carbon, which will be applied to the cost of each business unit. • The carbon pricing is initially based on Scope 2 emissions in the business sector, with new Scope 1 emissions to be added from Jan 2023.

Green Mark Acquisition

U.S. Green Building Council
LEED Gold Certificatio

Awarded The Asset's highest honor, the ESG Jade Award, the only telecoms company to receive the award

Green Manufacturing

Responsible Sourcing

Green Sourcing

- At the end of 2018, the ISO 20400 Sustainable Procurement Guidelines was introduced to strengthen and implement green procurement thinking through the ISO management system.
- Promotes the procurement of green products that have a Green Mark (low-pollution, recyclable, resource-saving or green building materials), self-declared or have a low environmental impact over their life cycle (from raw material acquisition to disposal) as a priority throughout the region.
- Mid-term target: to maintain a green procurement rate of at least 5% per annum; Long-term target: to increase the proportion of green procurement to over 50% of total procurement in the future.

Green Manufacturing

Renewable Energy & Energy Management

Energy Management

- By the end of 2021, 51 solar PV sites with a total capacity of 4,506kWp had been installed throughout Taiwan.
- Dynamic energy management is carried out via the internet using the in-house developed intelligent Energy Network Service (iEN) and the centralized monitoring and control system (POSS) for air-conditioning in the sever rooms.
- In 2008, the EARTH System was developed, with functions such as electricity, water and oil management, carbon inventory, resource recovery management and corporate reforestation.

- A Telecom operator who joined the CDP supply chain in 2017 completed 100% of the "Key Tier 1 Supplier" carbon management knowledge training in 2020 and committed to collect information on suppliers' climate change and carbon emissions at least once a year.
- Its zero-emissions store has obtained dual certification from the Environmental Protection Administration (EPA) Carbon Label and international ISO 14067 and PAS 2060.

Water Resource Treatment

- An underground raft-based rainwater recycling system was installed to collect rainwater from the roof and ground level of the sever room; condensate recycling equipment was added to the office air-conditioning system to reuse rainwater, bathing water and air-conditioning condensate for tree watering and cleaning of the campus.
- Promotes water conservation management measures, including the use of water-saving taps, two-stage flushing equipment, the installation of water reclamation devices in new buildings, and the reuse of domestic sewage for non-potable and body contact water after treated to the required water quality standard.
- Set a water saving standard: the annual increase in water consumption due to business growth should not exceed 2% (based on 2012).

Waste Disposal

- General household waste is transported to landfills or to incinerators by contracted waste clearance companies; recyclable waste is collected and sorted or disposed of by contracted cleaning companies.
- All waste lead batteries are sold locally through the supply entities, with a “Delivery Manifest for Waste Lead Cells Required for Recycling and Disposal upon Notice” obtained and kept for record. In 2021, a total of 35,871 batteries with a total weight of 1,908,465 kg were collected and disposed of, with a total sale amount of NT$31,966,389.

Design for Use

Paperless Receipts

- The paperless receipt service was launched in 2017; by Dec 2021, the proportion of paperless receipts was over 71%, reducing paper consumption by 590 million sheets, equivalent to a reduction of 54,382 logs cut and 10,768 tonnes of carbon emissions.

End Treatment

Product Recovery & Recycling

- Introduced BS 8001 Circular Economy in 2021, with MOD services as a target: recovery of damaged MOD units for repair and upgrade and reuse in the market; and recycling of valuable materials by qualified operators at the disposal end.
- In conjunction with the exchange of old devices for new ones for waste recycling, the service center set up recycling bins and recovered a total of 9.31 tonnes in 2021, with a reuse rate of 90.46%.

Far EasTone Telecommunications Co., Ltd.

Company Profile (Honors)

- As a pioneer in information and communications and digital application services in Taiwan, it provides a wide range of quality products and services that meet the needs of our customers through superior network technology, innovative digital services and convenient corporate applications.
- In 2022, the company received the Global Views Monthly CSR and ESG Corporate Social Responsibility Award for the fifth time; the CDP Supplier Climate Change Engagement was named a "Leader"; in 2022, the company was named a "Silver Award Winner" by S&P Global, an international sustainability rating agency; in 2021, the company was selected as a finalist for the TCSA Taiwan Corporate Sustainability Awards for the fifth time and received nine awards; for the third consecutive year, the company was selected as a constituent stock of the highest-ranking DJSI World.

Type	Limited by shares
Founded	1997
Industry	Telecommunications
Products/Services	Telecom engineering and spare parts trading and refurbishment

Corporate Sustainability	Objectives
SBTi	• Passed the SBTi review in 2019. • The target (with 2016 as the base year) is to reduce emissions in Scopes 1 and 2 by 20% in 2030 and in Scope 3 by 17% in 2030. • The company is expected to achieve 100% net zero emissions in Scope 1+2 by 2050.
RE100	• Joined RE100 in 20238 with a commitment to achieve 100% renewable energy use by 2040. • Plans to use 100% renewable energy in all IDC offices and stores nationwide by 2030, and to require suppliers to use 100% renewable energy by 2045-2048.

Corporate Sustainability	Objectives
EV100	Not a member of EV100 as of July 2023.
Carbon Disclosure Mechanism	• Far EasTone adopts a comprehensive approach to climate risk management that follows the TCFD recommendations in four key areas: governance, strategy, risk management, indicators and targets. Firstly, it identifies risks with significant potential impact and assesses the pathway and magnitude of the financial impact in different scenarios for each risk factor, and takes stock of the response measures on a case-by-case basis. • GHG inventory & management: Long-term introduction of ISO 14064-1 GHG inventory, with ISO 14064-1:2018 version adopted from 2019, covering Far EasTone, New Century InfoComm Tech Co and Kgex.Com Co.
Carbon Pricing	No information publicly available.

Green Mark Acquisition

2021 - CDP ranked “Supplier Engagement Leader”for 2nd consecutive year

2022 - 3rd straight year as “Silver Class” company in the S&P Sustainability Yearbook Rankings

Sustainability Award
Silver Class 2022
S&P Global

Green Manufacturing

Responsible Sourcing

Local & Green Sourcing

- Purchases from local companies in Taiwan amounted to 99.7% of total procurement spend in 2020.
- Energy efficiency is evaluated after consulting with the energy saving team when deciding on procurement bids; Far EasTone's green procurement in 2020 was 6.9% higher than the previous year.

Green Manufacturing

Energy Management

Energy Management

- Long-term introduction of ISO 50001 energy management system with external verification; target energy saving of 2,235,900 kWh.
- Office energy saving measures: reduce electricity consumption by upgrading equipment and optimizing operational management, such as retiring old power supply equipment, optimizing and retiring air-conditioning units, using microwave intelligent sensor lights, promoting energy management control systems, etc.
- Power management in the server room: In 2021, the maglev mainframe was launched, saving more than 20% of power compared to the same type of mainframe, and virtualizing the server, saving about 380,000 kWh of power and reducing carbon by about 190 tonnes.
- Builds green-friendly stores, uses eco-friendly labeled equipment as the standard for shop expansion and contracting, and gradually improves the energy-saving measures in stores by retiring variable frequency air-conditioning and energy-saving lighting equipment.

Waste Disposal

- By joining Ericsson Taiwan's Global Telecom Equipment Recycling Service Program, up to 98% of e-waste will be recycled, with a final landfill rate of around 2%.

Transport Packaging

Paperless Services & Green Logistics

- Promotes "paperless telecom services"; by Dec. 2021, the usage rate was over 80%, reducing the consumption of 111 million sheets of paper, which is equivalent to a reduction of 134.3 tonnes of carbon emissions from deforestation.
- It continues to promote green logistics by optimizing its logistics routes through big data analysis and matching the different business hours of each store to lessen environmental pollution caused by product transportation and reduce the waste of logistics cartons. In Sept. 2020, it started replacing single-use cardboard boxes with logistics boxes, reducing the number of cardboard boxes by 140,000 in 2021.

Design for Use

Smart Solutions for Carbon Reduction

- Far EasTone has developed the "Smart Street Light" application, which not only allows remote monitoring of the status of each street light, but also provides a value-added upgrade service of "5G Smart Pole Sharing," which can be integrated with transport-related applications such as smart lighting, smart traffic management and electric vehicle charging piles.

End Treatment

Product Recovery & Recycling

- Signed an MOU on recycling of waste mobile communication products with the EPA of the Executive Yuan to set up mobile phone collection sites at its stores throughout Taiwan to recycle discarded mobile phones, PDAs, GPS and chargers or other accessories for free.
- Far EasTone expects to retire more than 10,000 3G/4G base stations by the end of 2022, and to raise the standard for the clearance of base stations to recover up to 98% of e-waste.

Taiwan Mobile Co., Ltd.

台灣大哥大 Taiwan Mobile

Company Profile (Honors)

- Taiwan Mobile was honored with the "Silver Class" award by the S&P Global ESG Sustainability Yearbook 2022 Ranking for the fourth consecutive year in the Telecommunication Services category, and was named to the Dow Jones Sustainability Indices (DJSI) World Index for the fifth consecutive year, and remained the number one telecoms operator in the world and was recognized as a climate change leader by CDP, the world's largest carbon disclosure organization.

Type	Limited by shares
Founded	1997
Industry	Telecoms
Products/Services	Mobile communications, fixed-line telecoms, international communications, Internet services

Corporate Sustainability	Objectives
SBTi	• Set SBT carbon reduction targets with a commitment to reduce carbon emissions in Scopes 1 and 2 by 30% and Scope 3 by 15% by 2030, with 2019 as the baseline. And the Science Based Targets initiative (SBTi) review was approved with target of well below 2°C by 2030.
RE100	• Joining RE100 in 2022, the company is committed to using 100% renewable energy by 2040 and achieving a net zero emissions target by 2050. • With a target of 30% green power procurement and 70% self-built power plants, it aims to gradually increase its share of renewable energy, starting with solar power and land-based wind power. • In 2021, 12.46 MW of green power capacity has been completed and a further 3.5 MW of solar PV system is scheduled to be completed in 2022, with a projected renewable energy share of approx. 4.5%. • The renewable energy ratio is set to reach 10% by 2025, 20% by 2030, 60% by 2035, and 100% by 2040, in line with the RE100 commitment.

Corporate Sustainability	Objectives
EV100	Not a member of EV100 as of July 2023.
Carbon Disclosure Mechanism	• TCFD: Taiwan Mobile introduced the TCFD climate related financial disclosure in 2018 as a top framework for assessing corporate risk management. Upon completion of the TCFD report in 2021, it is estimated that the total cost spent from 2022 to 2030 on green power, carbon fees, and carbon reduction will surpass NT$10 billion. • GHG inventory & management: Certified for ISO 14064-1 in 2013.
Carbon Pricing	No information publicly available.

Green Mark Acquisition

2021 Sustainability Yearbook "Gold Class"

Sustainability Award
Gold Class 2021
S&P Global

Greater China Business Sustainability Index "Top 10"

GC BSI
Greater China Business Sustainability Index
大中華企業可持續發展指數

CDP Climate Change Rating "Leadership Level"

CDP
DISCLOSURE INSIGHT ACTION

2022 Sustainability Yearbook "Silver Class"

Sustainability Award
Silver Class 2022
S&P Global

Green Manufacturing

Responsible Sourcing

Rigorous Scrutiny of Suppliers' Carbon Emissions

- In 2021, Taiwan Mobile completed a carbon emissions inventory of 137 key Tier 1 suppliers for 2020 and a field review of emissions from 12 suppliers, with the goal of achieving a 20% reduction in supply chain carbon emissions by 2030.

Green Manufacturing

Diversified Programs for Carbon Reduction

Energy Efficiency & Renewable Energy

- In 2021, the share of renewable energy in total energy use stood at 1.4%.
- 316.8kW of renewable energy was installed in-house at the base station, Taichung and Pingtung machine rooms.
- 12.2MW of green power is wheeled for use in the company's machine rooms and base stations.

Water Resource Treatment

- Water saving campaigns are promoted in the offices and in the direct selling stores.
- Machine room base station (including media/cloud/information server room): (1) cooling water tower temperature control and installation of inverter; (2) Adjustment of waste water recovery ratio of evaporative chilled water mainframe; and (3) Placing of recycled PET bottles in toilet tank and lowering of water discharge from urinal.

Waste Disposal

- In 2021, the recoverable ratios for optical cables, copper cables, lead storage batteries and telecoms equipment stood at 45.1%, 81.1%, 45% and 95.76% respectively.
- All wastes are collected and disposed of by contracted qualified clearance operators.

Transport Packaging

Diverse Programs to Reduce Carbon Emissions

- The vehicle monitoring system is used to reduce the idling speed of construction vehicles, resulting in a cumulative reduction of 26,005 liters of fuel and 59 tonnes of carbon emissions in 2021 compared to last year; exceeding the reduction target by 38.4% compared to the base year of 2016.
- One-year results of the outsourced logistics management mechanism: (1) Approx. 244.57 tonnes of carbon emissions saved by requiring the engine to be switched off when idling for over 60 secs; (2) Approx. 384.54 tonnes of carbon emissions saved by adjusting vehicle allocation without affecting operations; (3) Approx. 115.1 tonnes of carbon emissions saved by adjusting the Saturday logistics to one delivery service; and (4) Approx. 94 tonnes of carbon emissions saved by eliminating the scooter fleet and merging it into the logistics fleet for distribution.

Design for Use

Green Goods & Services

- Extends the life of the power supply system SMR.
- Develops innovative green products and services using digital technology such as: MyVideo, MyMusic, MyBook, Cloud Room, Fleet Manager 3.0, Innovative Billing Service, myfone Online Insurance, TAmedia and Air Quality Cloud.

End Treatment

Cell Phone Recycling

- Smartphone resource recycling to promote the reuse of precious metals.
- Revitalize the second-hand cell phone market to reduce waste resources.

Appendix I
List of Taiwan Companies Participating in Carbon Reduction Initiatives (Sorted by International Environment Initiatives)

*Last update: July, 2023

Carbon Reduction Initiatives	Industry	No.	Company Name
RE100 (29 Companies)	Technology and Manufacturing	1	Acer Inc.
		2	Advantech Co., Ltd.
		3	Ardentec Corporation
		4	ASUSTek Computer Inc.
		5	AU Optronics Corporation
		6	Delta Electronics, Inc.
		7	E Ink Holdings Inc.
		8	Flexium Interconnect, Inc.
		9	GlobalWafers Co., Ltd
		10	Merry Electronics Co., Ltd.
		11	Primax Electronics Ltd.
		12	Qisda Corporation
		13	Taiwan Mobile Co., Ltd
		14	Taiwan Semiconductor Manufacturing Company (TSMC)
		15	United Microelectronics Corp.
		16	Vanguard International Semiconductor Corporation
		17	Wistron NeWeb Corporation
	Chemical Engineering and Biotechnology	1	Grape King Bio Ltd.
		2	Hair O'right International Corp.

*The company names shown in **green** are the companies included in this handbook.

*Last update: July, 2023

Carbon Reduction Initiatives	Industry	No.	Company Name
RE100	Chemical Engineering and Biotechnology	3	Jola International Co., Ltd.
		4	King Yuan Fu Packaging Co., Ltd.
		5	Kingwhale Corporation
		6	M&R Nano Technology Co., Ltd.
		7	TCI Co., Ltd.
	Financial Services	1	Cathay Financial Holdings Co., Ltd.
		2	E.SUN Financial Holding Co., Ltd.
		3	Fubon Financial Holding Co., Ltd.
	Telecommunications	1	Chunghwa Telecom Co. Ltd.
		2	Far EasTone Telecommunications Co., Ltd.
SBTi (106 Companies)	Technology and Manufacturing	1	AcBel Polytech Inc.
		2	Acer Inc.
		3	Acrox Technologies Co., Ltd.
		4	AD-II Engineering Inc. (microSHIFT)
		5	Advantech Co., Ltd.
		6	Arcadyan Technology Corporation
		7	ASE Technology Holding, Co., Ltd.
		8	Asian Power Devices Inc.
		9	ASUSTek Computer Inc.
		10	AU Optronics Corporation

*The company names shown in **green** are the companies included in this handbook.

*Last update: July, 2023

Carbon Reduction Initiatives	Industry	No.	Company Name
SBTi	Technology and Manufacturing	11	Catcher Technology Co., Ltd.
		12	Celxpert Energy Corporation
		13	Cheng Uei Precision Industry Co., Ltd. (FoxLink)
		14	Chiang Pao Industrial Co., Ltd.
		15	Chicony Electronics Co., Ltd.
		16	Chicony Power Technology Co., Ltd.
		17	Chung Hwa Pulp Corporation
		18	Compal Electronics, Inc.
		19	Coretronic Corporation
		20	CymMetrik Enterprise Co., Ltd.
		21	Darfon Electronics Corp.
		22	Delta Electronics, Inc.
		23	E Ink Holdings Inc.
		24	Formosa Advanced Technologies Corporation
		25	Formosa Sumco Technology Corporation
		26	Fulgent Sun Group (Fulgent Sun International (Holding) Co., Ltd.,)
		27	General Interface Solution (GIS) Holding Ltd.
		28	Hon Hai Precision Industry Co., Ltd.
		29	HOSEA Precision Co., Ltd.
		30	HTC Corporation

*The company names shown in **green** are the companies included in this handbook.

*Last update: July, 2023

Carbon Reduction Initiatives	Industry	No.	Company Name
SBTi	Technology and Manufacturing	31	Hwa Meei Optical Co., Ltd.
		32	Innolux Corporation
		33	JD Components Co., Ltd.
		34	LITE-ON Technology Corp.
		35	Long Way Enterprise Co., Ltd.
		36	New Kinpo Group
		37	Nan Ya PCB Co., Ltd.
		38	Nanya Technology Corporation
		39	Pegatron Corporation
		40	Primax Electronics Ltd.
		41	Qisda Corporation
		42	Quanta Computer Inc.
		43	(Samoa) Flourish Thrive Developments Limited Taiwan Branch
		44	Sercomm Corporation
		45	Shyang Shin Bao Ind. Co., Ltd.
		46	Simplo Technology Co., Ltd.
		47	Sintex International Ltd.
		48	Sunny Wheel Industrial Co., Ltd.
		49	Sunrex Technology Corp.
		50	Taiwan Paiho Limited

*The company names shown in **green** are the companies included in this handbook.

*Last update: July, 2023

Carbon Reduction Initiatives	Industry	No.	Company Name
	Technology and Manufacturing	51	Taiwan Printed Circuit Board Techvest Co., Ltd.
		52	TEKTRO Technology Corporation
		53	Topco Scientific Co., Ltd.
		54	TPV Technology Limited
		55	Transart Graphics Co., Ltd
		56	United Microelectronics Corp.
		57	VP Components Co., Ltd.
		58	Wistron Corporation
		59	Wistron NeWeb Corporation
		60	Wiwynn Corporation
		61	Zyxel Communications Corporation
	Telecommunications	1	Chunghwa Telecom Co. Ltd.
		2	Far EasTone Telecommunications Co., Ltd.
		3	Taiwan Mobile Co., Ltd
	Financial Services	1	Cathay Financial Holdings Co., Ltd.
		2	Chang Hwa Commercial Bank, Ltd.
		3	China Development Financial Holding Corporation
		4	CTBC Financial Holding Co., Ltd.
		5	E.SUN Financial Holding Co., Ltd.
		6	First Financial Holding Co., Ltd.

*The company names shown in **green** are the companies included in this handbook.

*Last update: July, 2023

Carbon Reduction Initiatives	Industry	No.	Company Name
SBTi	Financial Services	7	Fubon Financial Holding Co., Ltd.
		8	Mega Financial Holding Company Limited
		9	Nan Shan Life Insurance Company, Ltd.
		10	Shin Kong Financial Holding Co., Ltd.
		11	SinoPac Financial Holdings Company Limited
		12	Taishin Financial Holding Co., Ltd.
		13	Taiwan Business Bank, Ltd.
		14	Taiwan Cooperative Financial Holding Co.,Ltd.
		15	The Shanghai Commercial & Savings Bank, Ltd.
		16	Yuanta Financial Holding Co., Ltd.
	Chemical Engineering and Biotechnology	1	Asia Cement Corporation
		2	CHIMEI Corporation
		3	Far Eastern New Century Corporation
		4	Formosa Chemicals And Fibre Corporation
		5	Formosa Plastics Corporation
		6	Formosa Taffeta Co., Ltd.
		7	Fu Hsun Fiber Industries Co., Ltd.
		8	Grape King Bio Ltd.

*The company names shown in **green** are the companies included in this handbook.

*Last update: July, 2023

Carbon Reduction Initiatives	Industry	No.	Company Name
SBTi	Chemical Engineering and Biotechnology	9	Hair O'right International Corp.
		10	Nan Ya Plastics Corporation
		11	Promax Textile Co.,Ltd
		12	Taiwan Cement Corporation
		13	TCI Co., Ltd.
	Others	1	Asia Specific Enterprises Ltd.
		2	BES Engineering Corporation
		3	China Airlines Ltd.
		4	CTCI Corporation
		5	EVA Airways Corporation
		6	Evergreen Marine Corp.
		7	Formosa Climate Smart Service Limited
		8	Global Mall Co., LTD.
		9	Kedge Construction Co., Ltd.
		10	Ministry of Health and Welfare Shuang-Ho Hospital
		11	momo.com Inc.
		12	Sinyi Realty Inc.
		13	Winkler Partners Legal Information Department

*The company names shown in **green** are the companies included in this handbook.

*Last update: July, 2023

Carbon Reduction Initiatives	Industry	No.	Company Name
EV100 (1 Company)	Technology and Manufacturing	1	Delta Electronics, Inc.
EP100 (5 Companies)	Chemical Engineering and Biotechnology	1	3DL Lab. Inc.
		2	Taiwan Cement Corporation
		3	TCI Co., Ltd.
	Technology and Manufacturing	1	E Ink Holdings Inc.
	Others	1	Far Eastern SOGO Department Stores

*The company names shown in **green** are the companies included in this handbook.

Produced by Members of Industry, Science and Technology International Strategy Center(ISTI) of ITRI: Chiu-Yen Chen, Yuan-Chen Lin, Shiuan-Ruei Wu, Shih-Ning Yuh, Chih-Chin Liao, Li-Ping Tsai, Chung-Wen Chen, Yu-Wei Tsai, Tang-Xi Yu

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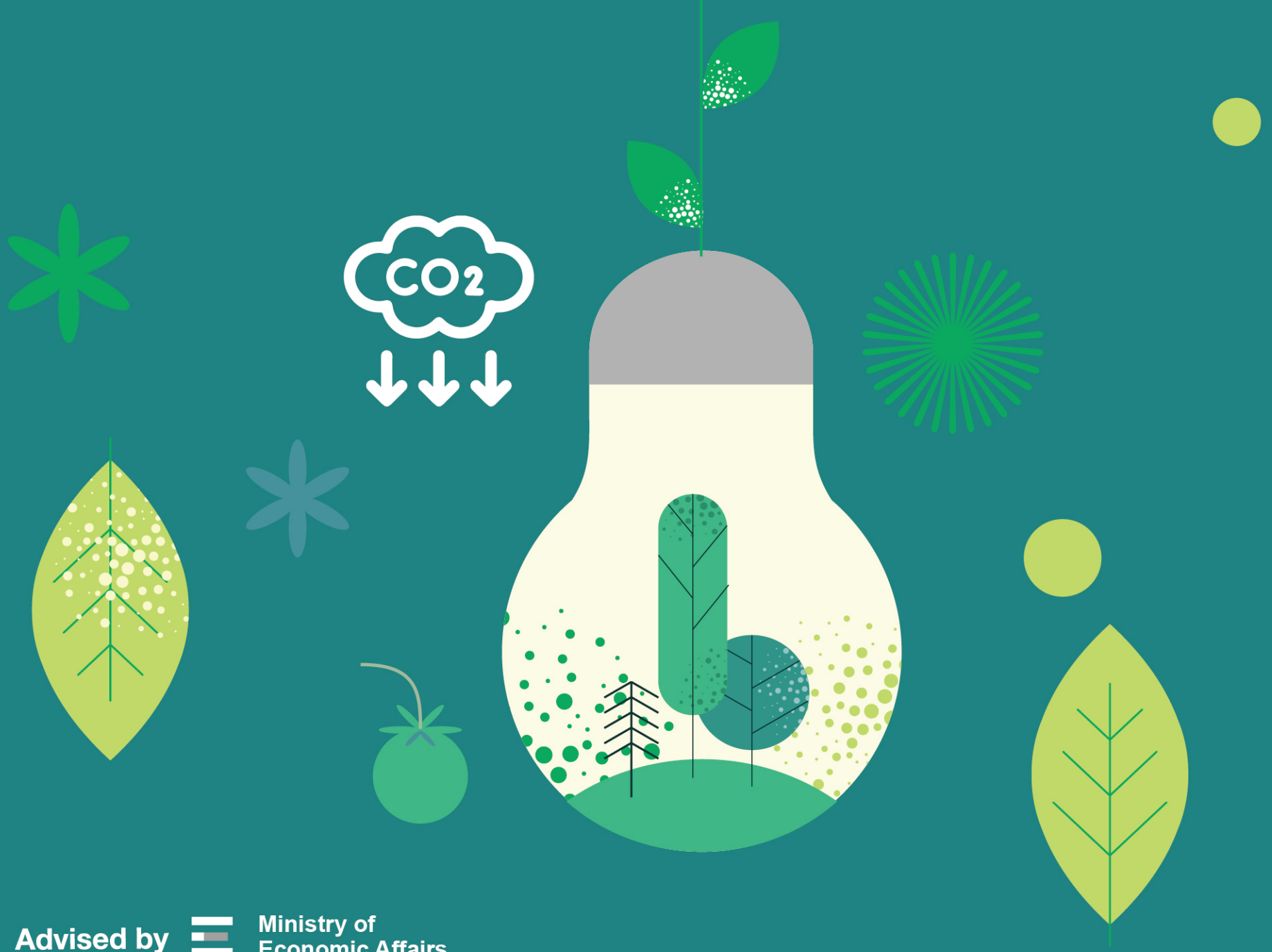

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