2023 MERRY

Sustainability Report

Highlights

2023 Sustainable Highlights

Governance

- Corporate Governance Evaluation: Top 5%
- MSCI ESG Rating: BBB
- SGS ESG Award: Gold Award
- TCSA Taiwan Corporate Sustainability Awards: Gold Award for Sustainability Report
- iF Design Award
- EE Awards Asia: Asia Gold Award

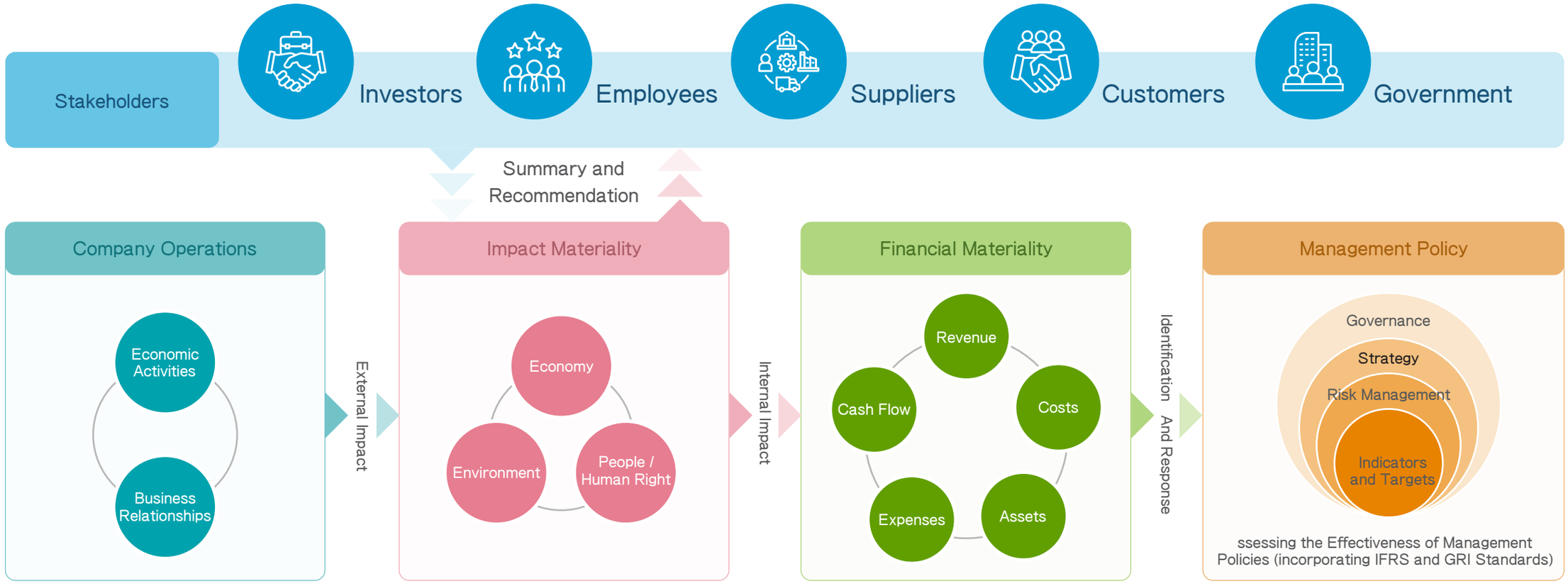
Environmental

- In response to the RE100 renewable energy initiative, the proportion of renewable energy usage reached 23.11% in 2023.
- CDP Climate Change Management: Rating B
- CDP Water Security Management: Rating B
- Compared to 2022, energy intensity decreased by 6.11%, Scope 1 and 2 GHG emissions decreased by 14.09%, water withdrawal decreased by 17.24%, and waste reduced by 0.92%.

Social

- Taichung City Happy Workplace - Five-Star Award
- Taichung City Friendly Senior Excellence Enterprise - Excellence Award
- Sports Administration Sports Enterprise Certification
- Health Promotion Administration Outstanding Healthy Workplace - Healthy Senior Award
- Assisted in Establishing the Nation's First "Hearing-Friendly Love Library"

Analysis and Identification of Key Issues

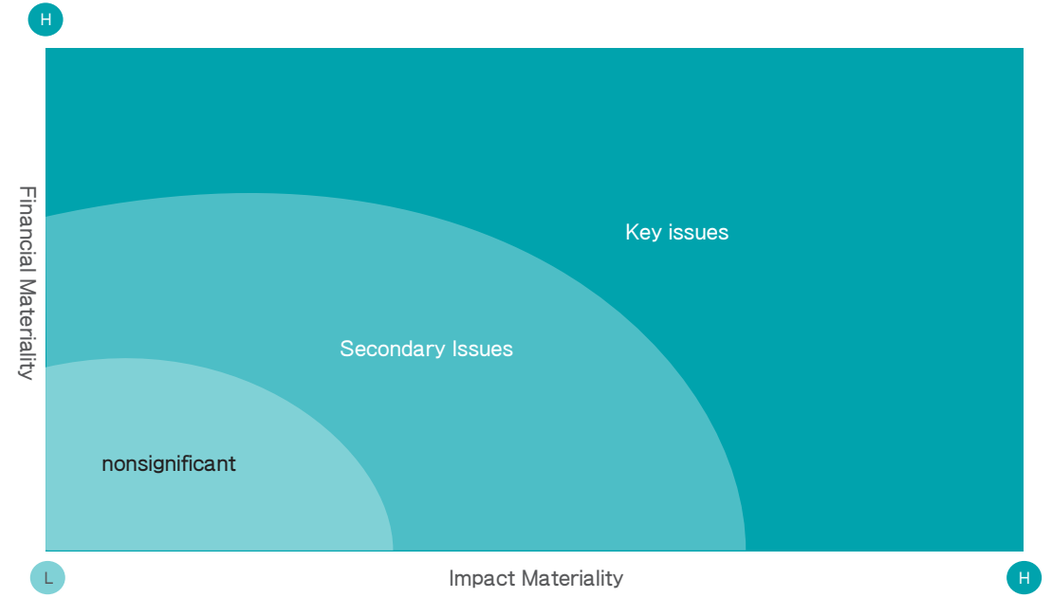


Analysis and Identification of Key Issues

Merry Electronics conducts regular sustainability impact assessments each year to review and evaluate high-impact issues, formulate sustainability promotion strategies, and action plans, and set short, medium, and long-term goals for key items. In 2023, with the official release of the IFRS Sustainability Disclosure Standards and the European Sustainability Reporting Standards (ESRS), Merry Electronics adopted "GRI 3: Material Topics 2021" as the foundation. Simultaneously, it also referenced IFRS and ESRS guidelines on sustainability impacts, applying the principle of "Double Materiality" to incorporate sustainability impacts into Impact Materiality and Financial Materiality. This involves a five-stage identification process to assess the impact of Merry's operational activities on social, environmental, people, and human rights sustainability aspects (external impacts) and the financial impacts on Merry due to the need to manage these external impacts (internal impacts). By balancing these internal and external impacts, the sustainability impact analysis results are produced, determining the key sustainability issues to be prioritized for reporting.

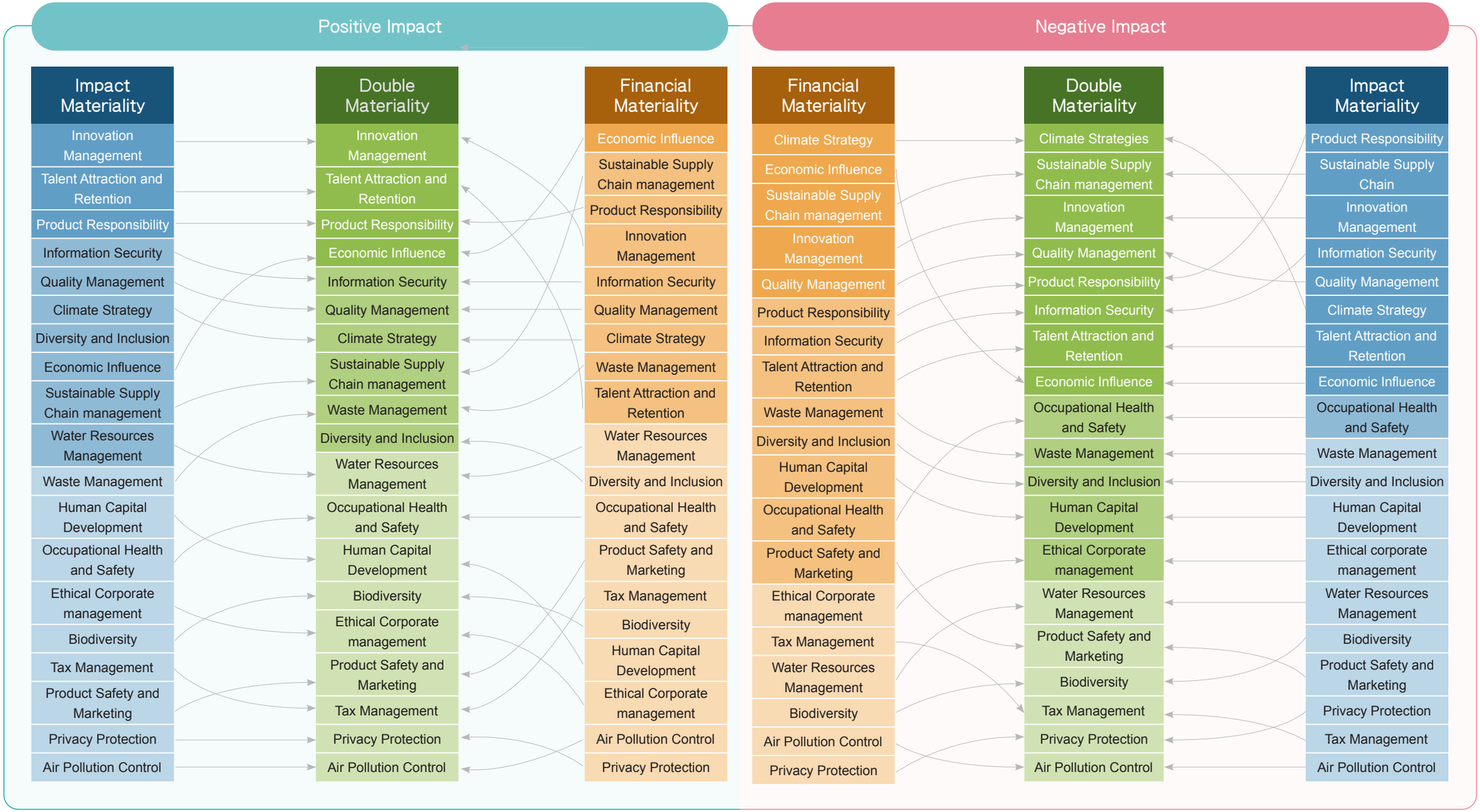
Based on Merry's operational activities, business relationships, and stakeholder profiles, relevant sustainability issues are collected with reference to global sustainability reporting standards (GRI, SASB, and TCFD) and international sustainability evaluation indicators. The Sustainable Development and Nomination Committee, the Sustainability Promotion Team, and relevant core executives analyze the degree of actual or potential positive or negative impacts each issue has on the economy, environment, and people (including human rights) within the company's operational activities and business relationships. They quantify the impact on their own operations and further discuss the importance of each issue, ranking them accordingly. Finally, the Sustainability Development and Nomination Committee discusses and confirms the key sustainability issues, prioritizing the disclosure of related goals and management outcomes.

Identification of Priority Key Issues for Disclosure



Based on the results of the sustainability impact analysis, using the double materiality assessment method, Merry Electronics has identified a total of 8 key issues: 8 negative and 4 positive. Additionally, there are 7 secondary issues that are categorized for continuous monitoring. After final confirmation by the President, the management policies and promotion outcomes of the 8 key issues are prioritized for reporting in this report.

Since this year marks the first use of the double materiality assessment method, there are differences compared to the previous year’s analysis approach. Specifically, the "Energy Management" issue identified in previous years has been merged into the "Climate Strategy" for a comprehensive assessment in 2023.


Positive Impact
Negative Impact
Impact Materiality
Innovation Management
Talent Attraction and Retention
Product Responsibility
Information Security
Quality Management
Climate Strategy
Diversity and Inclusion
Economic Influence
Sustainable Supply Chain management
Water Resources Management
Waste Management
Human Capital Development
Occupational Health and Safety
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Air Pollution Control

Management Approach of Material Topics

Economic Influence and Innovation Management

Global political and economic shifts and geopolitical relocations of supply chain development zones have impacted the job market for direct labor. Merry Electronics has established a factory in Vietnam and expanded its factory in Thailand to balance the setup and production of product lines across multiple countries. In recent years, customer demand for sustainable products has increased, and regulatory authorities and financial institutions are gradually raising requirements for corporate green revenue. Merry Electronics needs to quickly invest in the research and development of new materials, enhance sustainable design capabilities, advocate for sustainable materials and high-efficiency products, and proactively evaluate and test low-impact alternative materials to demonstrate performance and capabilities in sustainable design.

Responsibilities | Management Division / Technology Division | Electroacoustic Product Business group. | Microphone Product Business Unit
Power application system Business Group | Hearing Aid Product Business Division

Polices

- 2023 Operational Guidelines: Focus on Profitability, Customer Optimization, Risk Diversification, Net-Zero Sustainability
- Continue Investing in the Use of Recycled Materials:Increase the proportion of new products incorporating recycled materials.
- Implement Product Structure Optimization and Low-Impact Design:Reduce production losses.
- Introduce Circular Design DNA Plan:Incorporate principles of circular design into product development.

Commitment

- Introduce 10 Key Themes of Sustainable Product Design: Incorporate Evaluation from R&D to Shipment:Ensure all new product development processes include sustainability assessments.
- Increase Production of Sustainable Design Products: Meet customer demands by enhancing the output of sustainably designed products.
- Increase the Use of Renewable Energy: Achieve the RE100 target by 2040.

Economic Influence and Innovation Management

Action plan adopted

Product design and development follow a sustainable design framework to assist customers in producing more advanced and efficient products. We continuously enhance production modularization and product design capabilities. Additionally, we actively participate in external research projects and innovation investments to increase opportunities and the number of open innovations for products.

Action plan follow-up

- Monthly progress reports and reviews are presented at the Group's General Rules Meeting, with updates submitted to the Sustainability Promotion Task Force.
- Bi-annual reports and reviews are conducted with the Sustainable Development Promotion Team.
- Annual reports are presented to the Board of Directors.

Stakeholder Engagement

Internal: Strengthen the ability of internal personnel in sustainable innovation through a series of courses such as ESG trends introduction, green products and materials, circular design x design thinking.

External:Customers can directly contact the sales team and the company's sustainability contact for related inquiries. Investors can check related information on the Market Observation Post System or the company's official website.

Quality Management, Sustainable Supply Chain, Product Responsibility

International clients and investment institutions are increasingly emphasizing supply chain management, including environmental requirements for low carbon, recyclability, and reworkable manufacturing and design. Merry Electronics has established a green materials supplier database through its sustainable supply chain policy, using audits to understand whether suppliers meet social and environmental requirements, enhancing quality management to reduce complaint rates, and complying with environmental regulations and customer demands.

Responsibilities

Technology Division | Electroacoustic Product Business group. | Microphone Product Business Unit
Power application system Business GroupHearing Aid Product Business Division | Supply Chain Management Division

Polices

To provide customers with satisfactory products, quality, and services in a timely manner through source flow management, optimize supplier capabilities, manage risks, conduct audits and exchanges, and localize suppliers. All products comply with European and American regulations on the restriction of hazardous substances, and product packaging labels meet customer requirements.

Commitment

Based on domestic and international environmental regulations and standards, Merry Electronics further ensures that the environmentally friendly materials, processes, energy used, and products provided all meet low-carbon, environmentally friendly, and sustainable product criteria. This ensures that the materials, processes, and products used by Merry Electronics fully comply with relevant environmental regulations and standards.

Economic Influence and Innovation Management

Action plan adopted

- Adhere to the "Three-Six-Three-Seven Principle" to prevent production line stoppages due to untimely handling of abnormalities.
- Continuously improve items that do not meet quality standards each month and propose preventive measures.
- Require suppliers to sign a Social and Environmental Responsibility Commitment and a Conflict-Free Minerals Declaration.
- Conduct CSR audits on key suppliers.
- Increase the proportion of local supply chain procurement.

Action plan follow-up

- Conduct quality management and customer satisfaction reports and reviews during the monthly general planning meetings.
- Use the Global Product Management System (GPMS) to control materials at the source, ensuring that restricted substances in products comply with international regulations and customer requirements.
- According to the company's supplier management guidelines, new suppliers must pass evaluations and sign relevant commitment documents. Suppliers who have not completed all necessary documentation must obtain approval from the plant's general manager for special procurement transactions.
- Perform monthly reports and reviews on supplier management KPI results.

Stakeholder Engagement

Internal: Strengthen internal staff's understanding and implementation of sustainable supply chain development strategies through a series of courses introducing ESG trends.

External:Customers can directly contact the business and the company's sustainability window to inquire about related needs. Upstream suppliers can use the supplier communication platform and attend ESG-related promotion briefings.

Talents Attraction and Retention

Employees are key partners in Merry's sustainable development. We are committed to creating an equal, diverse, and healthy work environment, and we provide a compensation and benefits system that is both competitive and fair internally.

Responsibilities | Human Resources Division

Polices

We adhere to the principles of fairness and non-discrimination, providing equal employment and development opportunities. By benchmarking industry compensation levels and benefits systems, we offer competitive salary strategies and diverse benefit measures.

Commitment

We attract talented individuals, foster employee cohesion, and enhance employee identification with the company to improve retention rates.

Action plan adopted

- We provide employee benefits that exceed regulatory requirements
- Conduct an employee engagement survey every two years.

Action plan follow-up

- Monthly general meeting of the Group
- Merry Data Intelligent system

Stakeholder Engagement

Internal: Employees can provide feedback through various communication channels to collaboratively create a friendly workplace.
External:Attract talented individuals by managing employer brand image through diverse social recruitment channels.

Information Security

Information operations security and the protection of confidential and sensitive data are critical to the company's competitiveness and reflect Merry's commitment to customers, shareholders, and employees. Merry has established an Information Security Promotion Team that will continue to develop and enhance the group's information security management system to ensure the integrity, availability, and confidentiality of the group's information assets.

Responsibilities | Information Division

Polices

Merry Electronics Information Security Management Policy

Commitment

Through the ISO 27001:2013 Information Security Management System, we establish a secure and reliable information environment, ensuring the safety of data, systems, equipment, and networks. This protection shields against external threats and improper management or usage by internal personnel, preventing risks such as tampering, disclosure, destruction, or loss, thereby ensuring the continuity of business operations.

Action plan adopted

- Employee Information Security Awareness Training
- Information Security Account Control Operations
- Social Engineering Drill Training
- Endpoint Operation Protection and Control
- Network Management Defense Control

Action plan follow-up

- Bi-weekly Information Security Meetings
- Monthly Information Department Meetings
- Quarterly Headquarters Information Security Team Meetings
- Quarterly Group Information Security Promotion Team Meetings
- Annual Report by the Information Security Promotion Team to the Sustainable Development and Nomination Committee and the Board of Directors

Stakeholder Engagement

Internal: Based on annual education and training and various information security drills, report any related risk concerns to the Information Department.

External:External: Regularly commission external information security professionals to perform vulnerability scans on external service servers. If there are any related impacts, communication or complaints can be made through the "Contact Us" section on the company website.

Climate Strategies

The impact of climate change has become an undeniable issue for enterprises. The acquisition and use of energy and resources will increase operational costs and the risk of operational interruptions for Merry Electronics in the future. Therefore, implementing proper response and management measures at this stage is fundamental to strengthening the company's resilience.

Responsibilities | Technology Division-Quality Assurance Division

Polices

Environmental Protection Policy, Water Resources Policy, Biodiversity and No Deforestation Policy

Action plan adopted

Implement a greenhouse gas inventory system to improve the efficiency of inventory operations and enhance data integration. Focus on improving energy efficiency and reducing carbon emissions through the actual use of renewable energy. For any shortfall, purchase renewable energy certificates to meet the group's renewable energy targets.

Commitment

The group aims to achieve carbon neutrality in its operations by 2040 and will join the Science Based Targets initiative (SBTi) in 2024.

To accomplish this, we will enhance energy efficiency, increase the use of renewable energy, and continuously reduce greenhouse gas emissions by improving energy efficiency.

Action plan follow-up

- Establish energy systems at the facilities to monitor abnormal electricity usage in real-time.
- Set annual energy-saving and carbon reduction measures, and regularly track the execution and carbon reduction status of these measures.
- Report and review the greenhouse gas emission results in the monthly general planning meeting.

Stakeholder Engagement

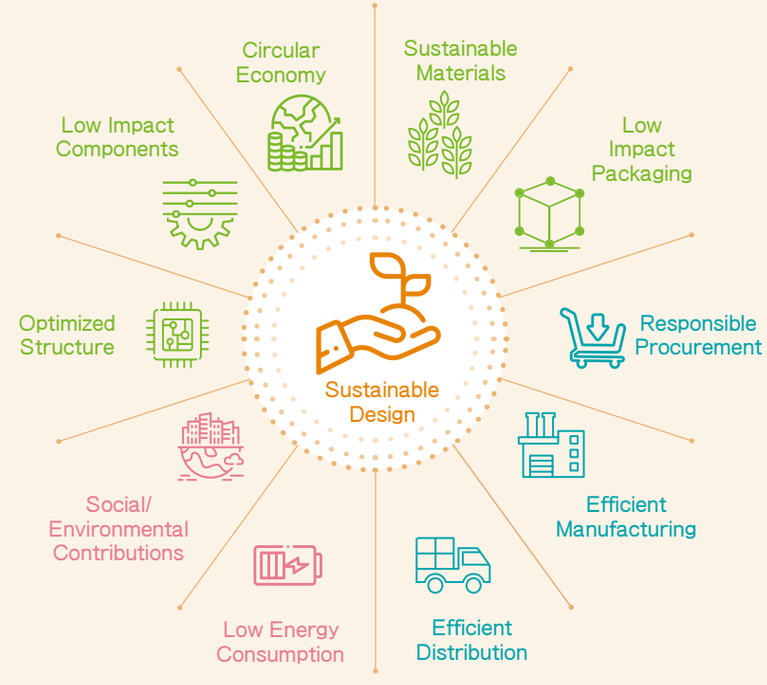
Internal: Enhance the awareness and management capabilities of relevant departments through a series of courses on ESG trends, organizational greenhouse gas inventory according to ISO14064-1:2018, and other related topics.

External:If there are any related impacts, they can be communicated or appealed through the "Contact Us" section on the company's website.

Pursuit of Progress and Innovation

Innovative technology is one of the key driving factors for the company to maintain its leading edge in the future. Merry has long focused on investing in R&D capabilities and grasping new industrial opportunities. Regarding product innovation, process innovation, and open innovation, Merry integrates trends in sustainable design and low-carbon transformation, combining the concept of the product life cycle with circular economy principles. Starting from the product design stage, Merry aims to minimize the impact on society and create sustainable value through goals such as miniaturization, automation of equipment, smart electroacoustic platforms, and battery integration.

Merry integrates the spirit of innovative management with the ten aspects of sustainable design to assist customers in producing advanced and efficient products. It continues to enhance modular production and product design capabilities, save manufacturing materials, use recycled materials, design environmentally friendly packaging, and reduce energy consumption during the usage stage. This approach realizes green manufacturing commitments from the inside out and implements sustainable values for both the environment and society. Meanwhile, Merry has established management measures for important global environmental issues, such as the management of hazardous chemicals in products and water risks, continuously incorporating internationally concerned environmental issues into the process of product development, production, and design.



Sustainable Design and Innovation Management

Product Design Incorporates Circular Economy Concepts

Since 2020, Merry has been implementing a sustainable design framework project. When developing new generation products, it aims to reduce the negative environmental impacts throughout the product life cycle while improving performance. This includes selecting raw materials, designing products, producing, using, handling, and recycling, to ensure the product maximizes its benefits and minimizes environmental impacts. The proportion of sustainable materials used has been increasing yearly, and Merry continuously seeks new materials. In 2023, Merry introduced "pineapple leather" made from pineapple leaf fibers in the ear cushion materials to replace artificial leather made from petrochemical materials, reducing environmental impact and addressing Taiwan's agricultural waste. Merry continues to integrate sustainability and circular concepts into new product development, demonstrating to customers its commitment to sustainable development and promoting the competitiveness of resource-circulating products.

Integrating Circular Design into Product Development Process

To ensure the R&D team continues to implement sustainable design when developing new models, Merry organized basic and advanced workshops on cradle-to-cradle design at the end of 2023. These workshops established foundational knowledge and insights into product development and business model opportunities, embedding the DNA of circular design—such as safe and circular material selection and evaluation, modular design, product life extension, dematerialization, and somatization—into Merry's product development. By the end of 2023, 22% of Merry's R&D personnel had completed basic workshop training, and 13% had completed advanced workshop training. In 2024, Merry will continue related education and training and has already begun designing a "Circular Design Scorecard," expected to be completed in the fourth quarter of 2024. This scorecard will help R&D personnel self-assess whether the developed models meet circular design criteria, implementing the product life cycle concept in product development Management forms.

2023 Achievement

Sustainable Materials

32.4% of the ratio,
carbon reduction of 30.9 t-CO2e

We have introduced the use of sustainable materials, enhancing the adoption of these materials in our customers' new products. This includes the use of Post-Consumer Recycled (PCR) plastic materials. The proportion of sustainable materials used in our overall material composition has reached 32.4%, which translates to an annual reduction of approximately 30.9 tons of CO2e. We continue to expand Merry's influence on green products.

Low-impact packing

Reduced size by 50%

We continue to promote and develop environmentally friendly packaging designs based on the principles of environmental protection and reducing the use of natural resources. Our design efforts include reducing packaging materials and ink, and minimizing the use of plastic by switching to recyclable or degradable packaging materials. Additionally, we print product manuals on the inside of the box lids. After overall optimization, the volume of the paper boxes has been reduced by 50%, significantly lowering their impact on and damage to the environment.

Low Energy Consumption

Power consumption optimized by 26%
saving up to 126.5 Mwh

By adopting low-power IC design, the power consumption of gaming headset products has been optimized by 26% for the same usage time. Based on the product's lifespan and the estimated 2023 shipment volume, this result in a total energy saving of approximately 126,500 kWh.

Energy Efficient

75% up to 85%

By improving the conversion efficiency of battery charging and discharging, and reducing energy loss during these processes, the use of external battery charging IC design has been adopted. This has increased the charging efficiency of gaming headset batteries from 75% to 85% in 2023.

Efficient Distribution

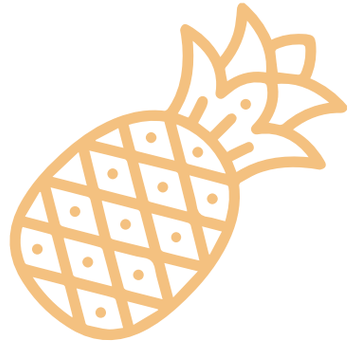
Increase carrying capacity by 150%
reduce number of trips by 30%

Under the conditions of meeting product protection and customer requirements, the size of the packaging box is reduced to improve storage space and transportation efficiency. For example, in the case of entertainment headphones, the number of products that can be loaded onto a single pallet increases by 150%, reducing the number of transport containers and storage space needed. With the same shipment volume, the number of product deliveries can be reduced by approximately 30%, saving transportation energy consumption and reducing carbon emissions.

Open Innovation

Plant-Based Leather - Pineapple Leaf Fiber

Merry Electronics, in response to climate change risks, is actively developing "natural fibers" to replace petrochemical and animal fiber materials. While replacing these materials, we also consider the end user's wearing experience to ensure long-term comfort. Testing results have shown that pineapple leather, compared to other natural fiber leathers, and is softer and more skin-friendly, thereby enhancing user experience.



Practical Benefits of Using Pineapple Leather

Taiwan produces 490,000 tons of pineapples annually, and pineapple leaves are often treated as agricultural waste, either burned or left to decompose in the fields, causing environmental and agricultural issues. In recent years, Taiwan has focused on converting these waste pineapple leaves into fibers for fabric production, achieving agricultural waste reutilization and reducing dependence on petrochemical materials. Merry sources fibers from local suppliers in Taiwan who use pineapple leaves and encourages manufacturers to continue developing sustainable materials and processes.

- Purely plant-based, non-animal leather, ensuring food safety, non-toxicity, and sustainability: Pineapple leather is made from plant-based materials, ensuring it is non-toxic and sustainable, without compromising food security.
- Partially biodegradable: The leather is partially biodegradable, contributing to less environmental waste.
- Lower carbon emissions compared to traditional synthetic leather: Compared to traditional synthetic leather, pineapple leather has a lower carbon footprint, reducing greenhouse gas emissions.
- Local procurement reduces transportation costs: Local procurement of pineapple leaves reduces transportation costs and supports local agriculture.

Future Plans

- **Expanding Market：** Promote pineapple leather products to a broader range of applications, collaborating with clients to launch new product lines for various types of wearable devices. This will expand the market for pineapple leather and increase its usage in diverse products.
- **Enhancing Depth：** Besides pineapple leaves, other agricultural waste can also be potential leather materials. Future collaborations with related industries can help expand the variety of materials used, achieving deeper sustainability. Additionally, exploring other eco-friendly materials, such as easily recyclable or degradable materials, can further reduce the overall environmental impact. Integrating these environmentally friendly materials into product packaging can enhance innovation and competitiveness.

Startup Company IPO Plan

Merry Electronics is investing in Taiwan's first electric vehicle company's initial public offering on the Innovation Board. By investing in the electric vehicle industry chain, Merry aims to achieve positive cooperation within the value chain and empower the company's industrial transformation. The total investment amounts to 20 million NTD.

Product Innovation

Microphone Composite Sensor

- Composite Sensor Series: Integrates sensors such as barometric pressure sensors and microphones into the same IC package, enabling the product to offer voice communication, intelligent audio control, and detection of pressure/altitude/floor levels within a relatively small semiconductor IC area and height. This integration allows smart wearable devices to be thinner, more compact, and have better waterproof performance. Composite sensors can be used in various wearable devices, AR, VR, drones, robots, and smart home systems.
- Product Award: The composite sensor was recognized as the Best Sensor of the Year at the EE Awards Asia 2023.

Video conference System

- Wide-Angle Camera Integration: Using multiple camera stitching technology, the horizontal field of view is increased from 120 degrees to 180 degrees, ensuring complete coverage of all participants in the conference room.
- Bidirectional Audio Reception: Prevents interruptions during simultaneous speaking by both remote and local participants, thereby improving meeting efficiency.
- AI Facial Recognition and Voice Localization (DOA): Clearly identifies the speaker during the meeting, assisting remote participants in recognizing who is currently speaking.
- Eco-Friendly Design: Reduces the use of plastic materials, resulting in a 70% reduction in weight.

Headphones

To meet the long-term wearing needs of headphone users for ear cup heat dissipation, we have introduced thermally conductive materials and heat storage materials into the ear cup leather and earcup foam. The incorporation of these materials helps to effectively manage heat transfer and storage, thereby improving the heat dissipation performance of the earcups.

Additionally, we have equipped temperature sensors to monitor the internal temperature changes of the earcups. Based on the sensor data, we can dynamically adjust the ratio of thermally conductive and heat storage materials to achieve optimal heat dissipation.

With the redesigned earcup, compared to the original product, the time it takes for the temperature to rise from the initial 31° C to the uncomfortable 35° C has significantly increased. Specifically, this time has been extended from 20 minutes to 60 minutes, thus tripling the comfortable wearing time.

This improvement greatly enhances the comfort of using headphones for extended periods, meeting the higher demands of users for earcup heat dissipation performance.

Low-Impact Packaging

Low-impact packaging means considering the environment in the product packaging design process. By choosing sustainable materials and implementing innovative packaging designs (such as reduction design and optimized loading ratios), the demand for natural resources is reduced, and the negative impact on the environment is minimized. This approach further contributes to our efforts in addressing climate change.

Sustainable Material Selection

By adopting recyclable and biodegradable packaging materials (e.g., using FSC-certified paper instead of traditional plastic materials), we reduce the use of plastic materials, helping to minimize plastic waste and decrease reliance on petrochemical fuels. This approach also aims to reduce the carbon footprint generated during the product's logistics process (including storage, transportation, packaging, and distribution).

At the same time, we continuously evaluate new sustainable materials and encourage customers to incorporate them during the product development phase. Currently, the usage rate of sustainable materials in the packaging of over-ear headphones has reached 35%, and we aim to achieve 40% by 2024.

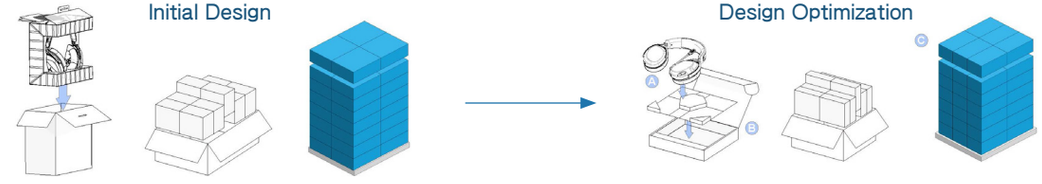
Sustainable Materials 2024 40%

Sustainable Materials 2023 35%

Innovative Packaging Design

Designing with the concepts of environmental protection and resource waste reduction in mind, we use paper structures to replace plastic blister packs, thereby reducing the use of plastic materials. We also implement digital manuals to replace traditional paper versions, and switch from multi-color printing to single-color printing to reduce ink usage.

Additionally, by optimizing loading rates, we enhance the utilization ratio of product packaging and pallets. This optimization meets the functional requirements of product protection, convenience, and sales, while increasing packaging efficiency. For instance, we increase the number of products a single pallet can carry, reduce the number of shipping containers needed, and decrease storage space requirements.



A. Reduction

By adjusting the placement of the headphones inside the packaging box (turning the earcups and laying them flat to reduce overall height), and changing the internal fixing structure from plastic blister packs to paperboard dividers, the overall packaging size is reduced by 62%.

Packaging Size ↓ 62%

B. Plastic Reduction

- The internal structure is changed from plastic blister packs to paperboard dividers.
- The plastic film on the color box is replaced with spray coating surface treatment.
- All protective films for the products are changed to paper specifications.

C. Increased Loading Efficiency

Based on the same pallet, the number of products that can be carried increases by 150%, significantly improving pallet loading efficiency and reducing the number of shipping containers and storage space required. With the same shipping volume, this saves transportation energy and reduces carbon emissions.

Number of products carried ↑ 150%

Trustworthy and Reliable Relationships

Sustainable supply chain

2023 Achievement

1. Announced Merry Electronics' Supplier Code of Conduct
2. The signing rate of the Social and Environmental Responsibility Commitment (Supplier Operational and Environmental Sustainability Commitment) reached 97%
3. The cumulative number of manufacturers completing CSR audits totals 233, accounting for 78% of the manufacturer's procurement amount
4. CSR audits for key suppliers: 100% completion
5. Local procurement ratio of non-electronic materials: 98% (China plant), 14% (other plants)
6. Completion of conflict minerals due diligence: 142 suppliers, achieving 100% conflict-free minerals
7. Supplier engagement: 2 supplier strategy meetings and 3 green management training sessions
8. Sharing of key green supply chain success stories

As a globally renowned leader in communication and entertainment electroacoustic products, Merry Electronics is committed to promoting sustainable supply chain management, viewing suppliers as important partners. Through stable and close cooperation with suppliers, we aim to create economic value while also expecting our supplier partners to jointly adhere to the RBA Code of Conduct and emphasize social and environmental responsibility, thereby creating a sustainable and mutually beneficial supply chain together.

Sustainable supply chain management blueprint

Source Management

- Develop a supplier code of conduct
- GPMS
- No use of conflict metals
- Social Responsibility Commitment
- Annual supplier audit

Risk Management

- Company policy
- Graded warnings of supplies and management measures at all stages
- Financial questionnaire survey
- Information security questionnaire survey

Supplier Localization

- Local procurement
- Supply chain diversification

Supplier Exchange Channels

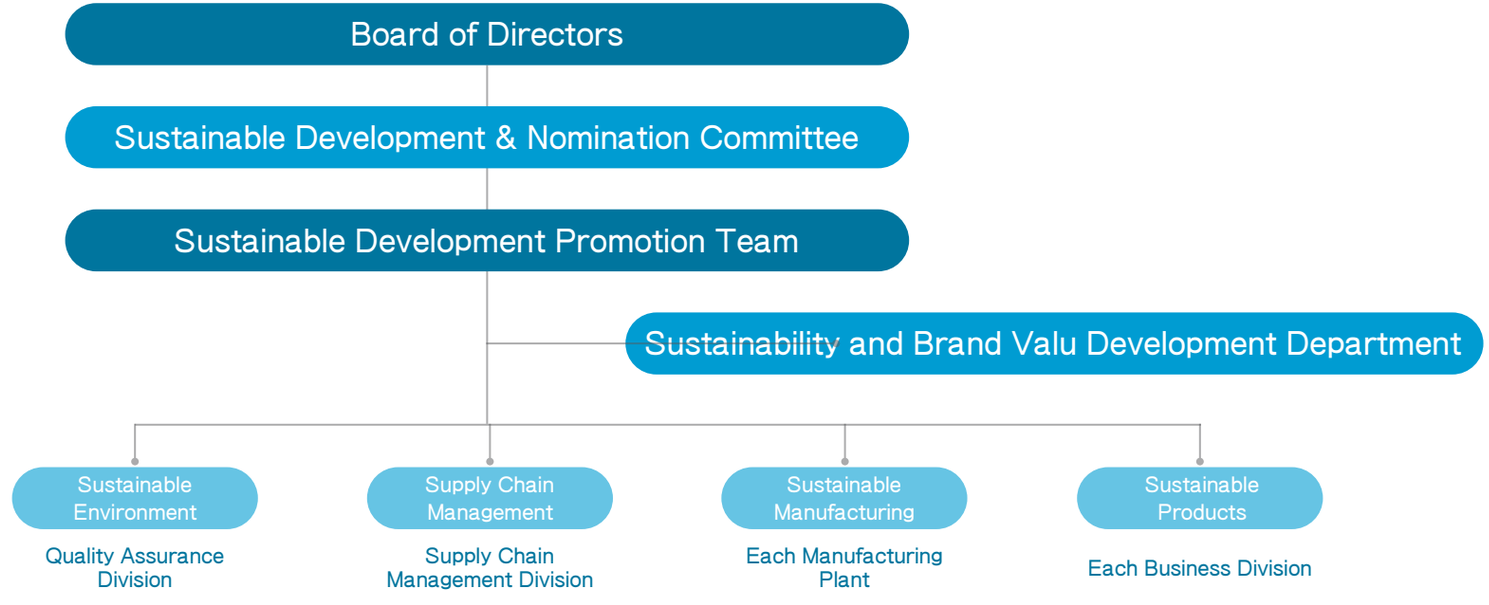
- Supplier strategy meeting
- Green Management Training Seminar
- Improvement of green manufacturing suppliers
- Circular use of environmental materials

As a global leader in electroacoustic manufacturing, Merry Electronics actively addresses the environmental and resource issues brought about by climate change. In 2023, the Board of Directors established the Sustainable Development and Nomination Committee to strengthen the highest governance unit's oversight of the group's environmental sustainability management. The committee continues the previous cross-departmental collaboration from the Sustainable Development Promotion Team, encompassing environmental resource management, corporate carbon management, energy management and renewable energy usage, water and waste management, and enhancing environmental awareness. Additionally, the committee has established an internal communication mechanism to promptly convey stakeholder requirements and international regulatory information, ensuring effective management and achieving a low-carbon, healthy environmental strategy.

Environmental protection policy and commitment

In 2023, Merry Electronics' Board of Directors approved the updated Group Environmental Sustainability Policy and Commitments, aiming for the group to achieve carbon neutrality by 2040. The RE100 (renewable energy usage) target is set to be reached by 2040 as well. Additionally, environmental protection policies, water resource policies, chemical policies, and biodiversity and no-deforestation policies have been established to progressively promote the sustainability actions of Merry Electronics Group. We also encourage value chain partners to participate in environmental protection initiatives, thereby raising awareness and achieving sustainable development.

Merry Electronics Group Carbon Reduction Task Force Structure



Climate Strategies and Achievements

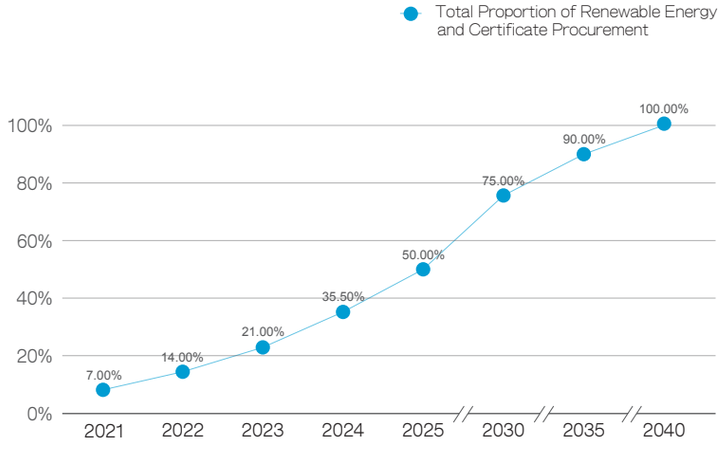
	Carbon Emission Reduction and Carbon Reduction Path (Near-term SBT) Setting	Improving Energy Efficiency	Renewable Energy
Strategy	• mplement comprehensive greenhouse gas (GHG) inventory and expand verification scope: Conduct thorough inventory of "other indirect GHG emissions" (Scope 3; categories 3-6) and continuously expand the verification scope to accurately grasp the GHG emission status. • Set Science-Based Targets (SBT): Establish carbon reduction targets for the group by controlling temperature rise within 1.5° C for Scope 1 and 2 emissions, and below 2° C for Scope 3 emissions.	• Energy Monitoring System and Usage Analysis: Improve energy efficiency for energy-consuming equipment. • Focus on Corporate Energy-saving Success Stories: Actively learn new technological concepts and experiences through exchange seminars and external energy-saving case studies.	• Utilization of Renewable Energy: Evaluate the implementation of solar power generation systems and renewable energy transfer schemes. • Renewable Energy Certificates: Support local renewable energy development by purchasing renewable energy certificates.
Highlights of 2023 performance	• Taiwan headquarters, Merry Shenzhen, Merry Vietnam, Merry Singapore, Merry North America, Merry Hong Kong, Merry USA, and Merry Malaysia, among other overseas offices, conduct organizational GHG inventories in accordance with ISO 14064-1:2018 standards and undergo third-party verification. • Merry Thailand and Merry Auster conduct internal organizational GHG inventories in accordance with ISO 14064-1:2018 standards. • Commit to the Science Based Targets initiative (SBTi), with the goal of submitting targets for review within two years. • Implement an online GHG inventory system to digitize the management of carbon emission activities data and certification documents.	• Merry Shenzhen: Through improvements to air compression equipment, it is estimated to save 30,948 kWh annually. • Merry Thailand: Installing variable frequency drives on air compression equipment is estimated to save 66,204 kWh annually. • Merry Vietnam: Adding timer control devices to the chiller and air compression units to reduce electricity consumption. • Austar: Updating the air conditioning control program and optimizing the cooling system is expected to save 49,500 kWh annually.	• 2023 Merry Electronics RE100 Commitment: Utilized a total of 6,978 MWh of renewable electricity, accounting for 23.11% of total electricity consumption. Of this, 2,213 MWh was directly sourced renewable electricity, representing a 143.99% increase compared to 2022. The remaining 4,765 MWh was supported through the purchase of renewable energy certificates. • Solar Power Systems: Merry Vietnam has activated a rooftop solar system. Rooftop solar systems at Taiwan headquarters and Merry Thailand are under construction, while planning for a rooftop solar system at Merry Shenzhen is underway.
2024 Targets	• Establish near-term Science-Based Targets (SBT) carbon reduction pathways and obtain official approval by 2025 at the latest. • All operational sites included in the consolidated financial statements will conduct GHG inventory activities in accordance with the latest ISO 14064-1 standards.	• Energy Intensity Reduction: Decreased by 6% (baseline year: 2020). • Continuous Improvement: Enhance the energy efficiency of equipment and strengthen energy usage analysis and monitoring systems.	• 2024 Renewable Energy Usage: The proportion of renewable energy usage is projected to account for 35.5% of total energy consumption.
Medium-term targets and strategies	• Complete official review of Science-Based Targets (SBT), and effectively conduct carbon reduction activities and carbon emission management according to the carbon reduction pathways. • All operational sites included in the consolidated financial statements will conduct GHG (greenhouse gas) inventory activities in accordance with the latest ISO 14064-1 standards.	• Continuous Expansion of Energy Management Scope: Implement energy efficiency improvement programs.	• Consumed 100% renewable energy by 2040.

Responding to the global RE100 renewable energy initiative

In response to the UN Sustainable Development Goal (SDG) 13 on climate action, Merry Electronics officially joined the global renewable energy initiative "RE100" led by The Climate Group and the Carbon Disclosure Project (CDP) in 2021. In 2023, the Board of Directors approved the adjustment of the target year to 2040, committing to using 100% renewable electricity for all operations.Merry Electronics continues to manage and improve energy efficiency, evaluate the installation of rooftop solar systems, actively seek local renewable energy suppliers to sign power purchase agreements, and purchase international renewable energy certificates to gradually increase the proportion of renewable energy usage.

In 2023, the sites under Merry Electronics' RE100 commitment used a total of 6,978 MWh of renewable energy, accounting for 23.11% of total electricity consumption. Of this, 2,213 MWh was directly renewable energy, representing a 143.99% increase compared to 2022, while the remaining 4,765 MWh was supported through the purchase of renewable energy certificates.

Merry's Renewable Energy Usage Target



Explanation:

The scope of the RE100 commitment includes Merry Taiwan, Merry Shenzhen, Merry Huizhou, Merry Thailand, Merry Vietnam, Merry Hong Kong, Merry Singapore, Merry Suzhou, Full Conn Tech (Xiamen), Austar, and SEAS.

Climate Action and Energy Management

Greenhouse Gas Inventory and Management

Merry Electronics is committed to greenhouse gas (GHG) inventory and has continuously expanded the organizational boundaries for GHG inventory in recent years to accurately grasp GHG emission status and set clear carbon reduction targets. Since 2007, the Taiwan headquarters has been conducting organizational GHG inventories in accordance with ISO 14064-1 standards and has passed third-party verification. The GHGs are the seven gases listed in the Kyoto Protocol, and the organizational boundaries for the inventory have been expanded year by year.

Compared to 2022, six new sites were added to the inventory in 2023 (Merry Singapore, Merry Hong Kong, Austar, Merry USA, Merry North America, and Merry Malaysia). Additionally, three sites were included in the scope of third-party verification in 2023 (Merry Vietnam, Merry Singapore, and Merry Hong Kong). The current baseline year is set to 2020, with Scope 1 and Scope 2 emissions amounting to 17,312.30 t-CO2e for that year.

According to Merry Electronics' GHG inventory advancement and Science-Based Targets (SBT) planning schedule, the company aims to complete the GHG inventory for the entire group for the years 2022 and 2023 by the end of 2024 and will reset the baseline year accordingly.

Greenhouse Gas Inventory

(Scope 1 and 2; Categories 1 and 2)

In 2023, the total emissions for Scope 1 and 2 amounted to 18,261.38 t-CO2e. If we consider the 2022 inventory scope (Taiwan headquarters, Merry Shenzhen, Merry Vietnam, Merry Thailand), the 2023 emissions for Scope 1 and 2 were 17,759.48 t-CO2e, which is a reduction of 3,495.05 t-CO2e (-16.44%) compared to 2022. Below are the main changes in emissions for each site:

Taiwan Headquarters

Emissions in 2023
817.85 t-CO2e
+11.19%
82.28 t-CO2e

This increase was mainly due to the addition of two new office areas in 2023, leading to higher electricity usage and refrigerant emissions within the inventory boundary.

Merry Shenzhen

Emissions in 2023
11,480.09 t-CO2e
-12.46%
1,634.42 t-CO2e

The main reasons for the reduction were the decreased use of shuttle buses within the plant, reducing Scope 1 emissions by 15.40%, the installation of a heat recovery system for air compressors, central air conditioning temperature regulation, and the implementation of energy-saving systems within the plant, which reduced Scope 2 emissions by 12.37% compared to 2022.

Merry Vietnam

Emissions in 2023
2762.44 t-CO2e
-46.40%
2391.49 t-CO2e

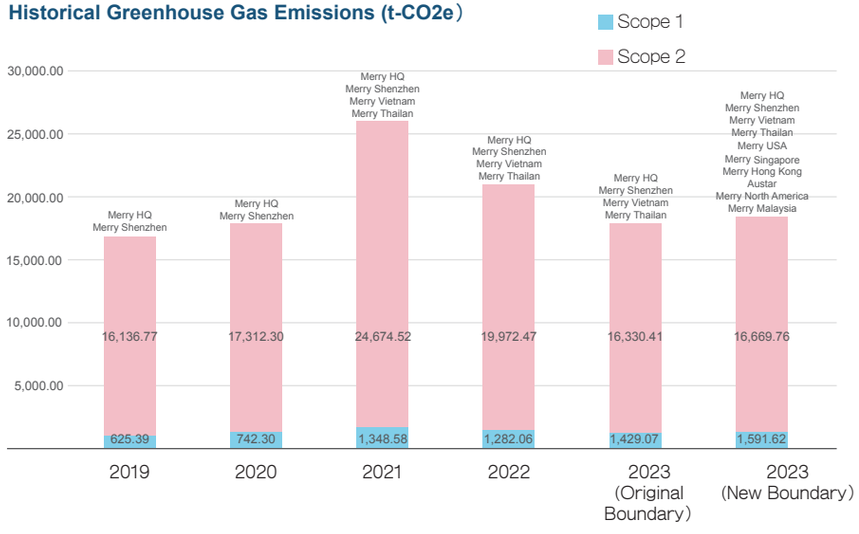
The primary reason for the reduction was the activation of a rooftop solar power system in June 2023, which, although not owned by the company, provided 1,213,345 kWh of electricity directly, significantly reducing Scope 2 emissions

Merry Thailand

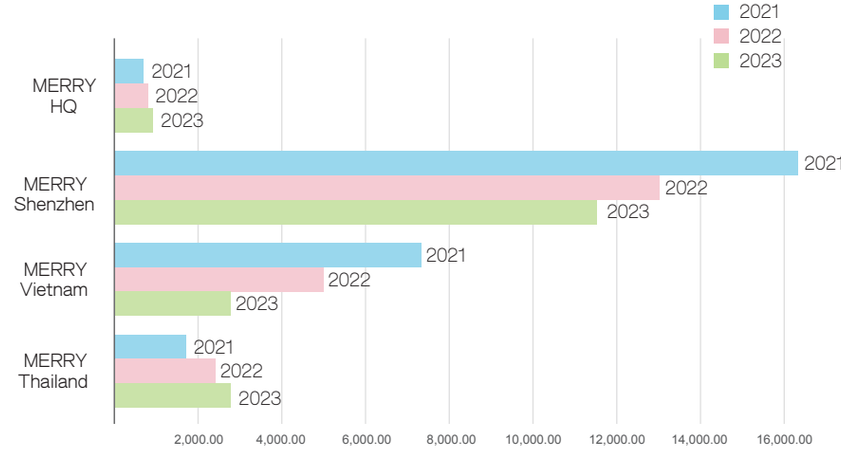
Emissions in 2023
2,699.10 t-CO2e
+19.88%
448.58 t-CO2e

This increase was primarily due to higher production volumes in 2023. Merry Thailand has set reduction plans for fuel usage, such as prioritizing electric vehicles for business trips and replacing fuel with renewable energy. A rooftop solar power system is scheduled to be activated in February 2024, which is expected to reduce emissions by approximately 16%.

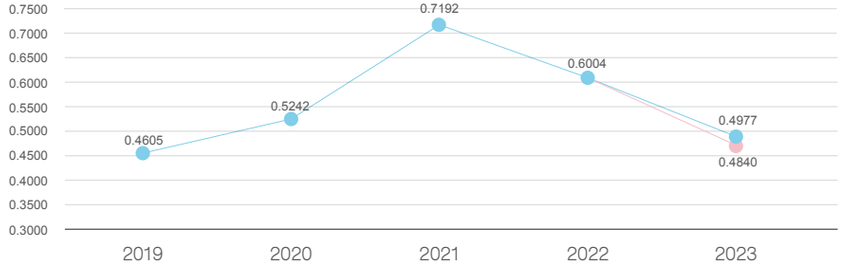
Historical Greenhouse Gas Emissions (t-CO2e)



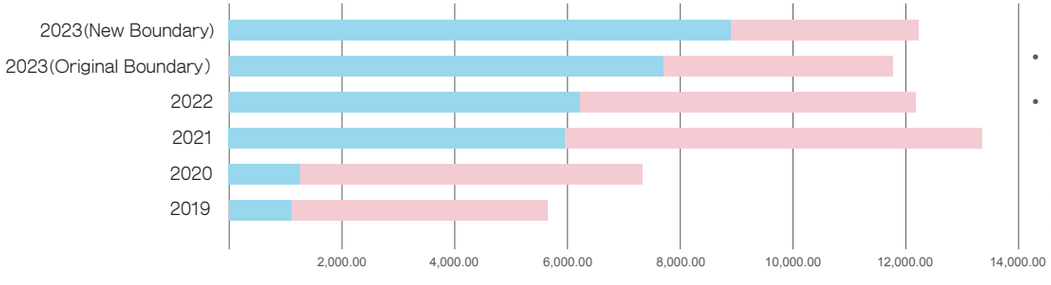
Historical GHG Scope 1&2 emissions (t-CO2e) by plant



Historical Greenhouse Gas Emissions Intensity (t-CO2e per million TWD revenue)



Direct Greenhouse Gas Emissions by Emission Type (t-CO2e)



Note:

- Inventory Organizational Boundaries:Before 2020: Only Taiwan headquarters and Merry Shenzhen;2021: Added Merry Vietnam and Merry Thailand;2023: Includes Taiwan headquarters, Merry Shenzhen, Merry Vietnam, Merry Thailand, Merry USA, Merry Singapore, Merry Hong Kong, Austar, Merry North America, and Merry Malaysia, accounting for 99.90% of consolidated revenue.
- Boundary Definition Method: Operational control method was used to define boundaries, and the emission factor method was used for calculations.
- Emission Factors: Depending on the emission source, conversion was performed using factors from the Environmental Protection Administration's Greenhouse Gas Emission Factor Management Table (version 6.0.4, June 2019), Product Carbon Footprint Information Network, Ecoinvent 3.9.1, IPCC AR6 (2021) Global Warming Potential factors, and ICAO flight carbon emissions.
- Electricity Emission Factors for Taiwan Headquarters: The emission factors published by the Bureau of Energy were used: 0.533 (2018), 0.509 (2019), 0.502 (2020), 0.509 (2021), 0.495 (2022) t-CO2e per thousand kWh.
- China Sites (2022): The emission factor of 0.5703 t-CO2e per thousand kWh was used, as published in the "Notice on the Management of Greenhouse Gas Emission Reports for Power Generation Industry Enterprises" by the Ministry of Ecology and Environment.
- Greenhouse Gas Emission Intensity: Calculated as the annual greenhouse gas emissions divided by the annual consolidated net revenue (in millions of NTD).
- Greenhouse Gas Inventory (Scope 3; Categories 3~6)
- Since 2020, Merry Electronics has conducted Scope 3 (Categories 3~6) inventories in accordance with ISO 14064-1:2018 greenhouse gas inventory standards. The organizational boundaries for the inventory have gradually included Taiwan headquarters, Merry Shenzhen, Merry Vietnam, and Merry Thailand. Key sites have been subject to external verification each year, aiming to comprehensively include subcategory emissions within the reporting boundaries. In 2023, Merry Electronics conducted inventory for 12 Scope 3 emission items, with a total emission amount of 14,692.07 t-CO2e.

Greenhouse Gas Inventory (Scope 3; Categories 3~6)

Since 2020, Merry Electronics has conducted Scope 3 (Categories 3~6) inventories in accordance with ISO 14064-1:2018 greenhouse gas inventory standards. The organizational boundaries for the inventory have gradually included Taiwan headquarters, Merry Shenzhen, Merry Vietnam, and Merry Thailand. Key sites have been subject to external verification each year, aiming to comprehensively include subcategory emissions within the reporting boundaries. In 2023, Merry Electronics conducted inventory for 12 Scope 3 emission items, with a total emission amount of 14,692.07 tons CO2e.

Unit: tCO2e

		2021	2022	2023
Inventory Organizational Boundary		Taiwan Headquarters, Merry Shenzhen, Merry Vietnam, Merry Thailand		Taiwan Headquarters, Merry Shenzhen, Merry Vietnam, Merry Thailand New additions: Merry USA, Merry Singapore, Merry Hong Kong, Merry AUSTAR, Merry North America, Merry Malaysia
Scope 3-1 Product and services purchased	Category 4.1	1,042.78	1,561.26	321.65
Scope 3-2 Capital products	Category 4.2	-	14.34	46.49
Scope 3-3 Activities related to fuels and energy not under Scope 1 or 2	Category 4.1	-	1,374.52	2,519.38
Scope 3-4 Upstream transportation and delivery	Category 3.1	309.68	2.04	1,649.56
cope 3-5 Wastes generated from operations	Category 4.3	213.37	28.75	70.20
Scope 3-6 Business trips	Category 3.5	4.36	44.85	287.11
Scope 3-7 Employee commutation	Category 3.3	401.02	766.09	1,789.48
Scope 3-8 Upstream lease assets	Category 4.4	2.67	No related business	2,712.70
Scope 3-9 Downstream transportation and delivery	Category 3.2	-	12,082.24	1,043.32
Scope 3-10 Processing of Sold Products	Category 5.1	-	-	514.18
Scope 3-11 Use of Sold Products	Category 5.2	-	-	3,667.88
Scope 3-13 Downstream Leased Assets	Category 5.1	-	-	70.12

Energy management

Over the years, indirect emissions from electricity consumption have been the largest source of greenhouse gas emissions for Merry Electronics. The company is committed to energy-saving and enhancing energy efficiency to promote energy-saving and carbon reduction initiatives. Since 2016, the Taiwan headquarters has implemented the ISO 50001 Energy Management System, which was later extended to Merry Shenzhen. Both the Taiwan headquarters and Merry Shenzhen passed ISO 50001:2018 third-party certification in 2020, and their certificates are currently valid.

Through a systematic approach, various energy-saving and carbon reduction measures have been implemented, and energy-saving equipment has been continuously updated. Over the years, outdated chillers and air conditioners have been replaced with energy-efficient chillers that meet COP value specifications. In recent years, an energy management system has been gradually established. This digital system automatically collects data and actively tracks energy consumption, enhancing energy-saving efficiency year by year.

Energy conservation enhancement measures

Taiwan HQ

- Replaced old chillers with screw-type variable frequency chillers to increase energy efficiency.
- Installed independent electricity meters on each floor of the new building to facilitate tracking of electricity usage in office areas and improve abnormal electricity consumption.

Merry Thailand

- Variable Frequency Drives for Air Compression Equipment: Added variable frequency drives to air compression equipment, estimated to save 66,204 kWh annually.
- Variable Frequency Air Conditioners: Replaced fixed-frequency air conditioners with variable frequency units, estimated to save 66,600 kWh annually.
- Solar-Powered Outdoor Lighting: Converted all outdoor lighting to solar-powered lights, estimated to save 9,056 kWh annually. ◦

Merry Shenzhen

- Waste Heat Recovery System: Installed a waste heat recovery system on air compression equipment to use recovered heat for providing hot water in dormitories and improve the efficiency of the air compressors.
- Energy Management System in Plant 2: Introduced electricity meter monitoring and established an energy management system in Plant 2. The system automatically collects data, allowing for real-time improvements in case of abnormal electricity consumption.
- Air Compressor Monitoring: Implemented monitoring devices to track the air production of air compressors.

Merry Suzhou

- Adjusting Air Compressor Upper Pressure Limit: Adjust the upper pressure limit of air compressors and modify start/stop times based on minimum demand to reduce energy consumption.
- LED Lighting and Power Switches: Replace existing lighting with LED fixtures and install power switches to allow for turning off lights as needed.

Merry Vietnam

- Added timed control to air conditioning and air compression units, allowing for multiple scheduled start and stop times.
- Installed air cooling modules for air conditioning systems, equipped with on/off switches to save unnecessary energy consumption.
- Implemented timed on/off control for vending machines in the factory area, turning on for refrigeration at 6:00 AM and off at 7:00 PM, saving approximately 23,760 kWh annually.
- Replaced factory area street lights with solar panel street lights, saving approximately 5,940 kWh annually. Street lights with solar-powered lights, saving approximately 5,940 kWh annually.

AUSTAR

- Updated Air Conditioning Control Program at Austar: Updated the air conditioning control program based on actual usage conditions within the plant and optimized the cooling system, estimated to save 49,500 kWh annually.
- Adjusting Air Compressor Upper Pressure Limit: Adjust the upper pressure limit of air compressors and modify start/stop times based on minimum demand to reduce energy consumption.

In addition to actively implementing various energy improvement measures, Merry Electronics regularly tracks the monthly energy intensity of each operational site through periodic meetings. The company also enhances the monitoring and analysis of energy usage across all organizations. By utilizing an energy monitoring system and conducting regular inventory analyses, Merry Electronics aims to thoroughly understand the organization's energy usage and improve energy efficiency.

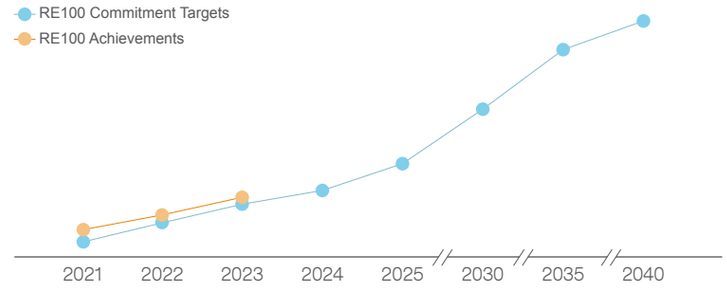
Use of Renewable Electricity

In 2023, Merry Electronics used a total of 6,978 MWh of renewable electricity under its RE100 commitment, accounting for 23.11% of total electricity consumption. Of this, 2,213 MWh was directly renewable electricity, representing a 143.99% increase compared to 2022. The remaining 4,765 MWh was covered through the purchase of renewable energy certificates. Moving forward, Merry Electronics will continue to promote the use of renewable electricity across all operational sites, replicating successful experiences from one site to another to fulfill the RE100 commitment and achieve the 2040 carbon neutrality environmental sustainability goal.

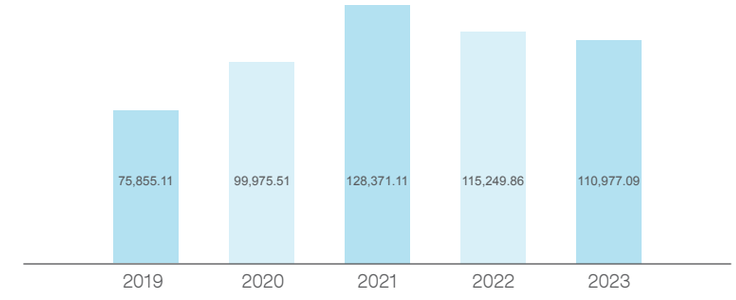
Energy Consumption Statistics

In 2023, Merry Electronics implemented 11 energy-saving measures, resulting in estimated annual electricity saving of over 103,522 kWh. Consequently, the energy intensity for 2023 was 3.06 GJ per million NTD, a 6.11% reduction compared to 2022. These improvements align with the expected outcomes of the energy efficiency measures.

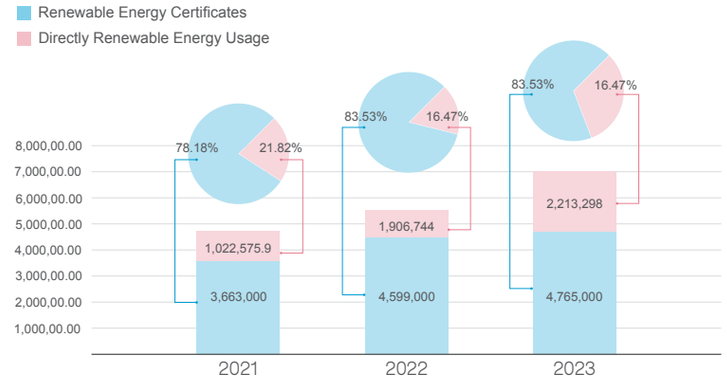
RE100 Target Setting and Achievements



Total Energy Consumption (Unit: GJ)



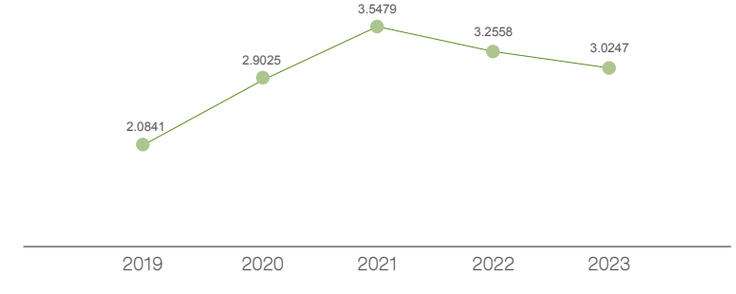
Proportion of Renewable Energy



Note:

In October 2021, Merry Electronics officially joined the RE100 international renewable energy initiative, committing to 100% renewable electricity usage across the entire group (including Taiwan headquarters, Merry Shenzhen, Merry Huizhou, Merry Thailand, Merry Vietnam, Merry Hong Kong, Merry Singapore, Merry Suzhou, Full Conn Tech (Xiamen), AST, and SEAS) by 2040. This commitment scope is slightly larger than the scope disclosed in this report

Energy Consumption Intensity (Unit: GJ per million TWD)



Note:

1. The natural gas consumption of Merry Thailand was added in 2021. Merry Vietnam started production in July 2020. In 2023, the statistical scope of energy usage has been added to Merry USA, Austar, Merry
2. Unit conversion: 1 kWh = 3600 KJ, 1 Kcal = 4.186798 KJ

ESG Data and Appendix

Human Resources Data

2023 Employee statistics																	
	Permanent Employee				Temporary Employees				Full-time employees				Part-time employees				Total
	Female	%	Male	%	Female	%	Male	%	Female	%	Male	%	Female	%	Male	%	
MERRY HQ	358	46.49%	403	52.34%	4	0.52%	5	0.65%	362	47.01%	408	52.99%	0	0%	0	0%	770
MERRY Shenzhen	0	0%	0	0%	1,143	34.55%	1,170	35.37%	284	8.59%	395	11.94%	1,202	36.34%	1,427	43.14%	2,313
MERRY Thailand	574	55.25%	465	44.75%	0	0%	0	0%	574	55.25%	465	44.75%	0	0%	0	0%	1,039
MERRY Vietnam	0	0%	0	0%	1,061	77.56%	307	22.44%	1,061	77.56%	307	22.44%	0	0%	0	0%	1,368
MERRY USA	1	11.11%	8	88.89%	0	0%	0	0%	1	11.11%	8	88.89%	0	0%	0	0%	9
MERRY Singapore	13	26.00%	37	74.00%	0	0%	0	0%	13	26.00%	37	74.00%	0	0%	0	0%	50
MERRY Hong Kong	5	45.45%	4	36.36%	2	18.18%	0	0%	6	54.55%	4	36.36%	1	9.09%	0	0%	11
MERRY Suzhou	35	27.13%	25	19.38%	17	13.18%	11	8.53%	52	40.31%	35	27.13%	12	9.30%	30	23.26%	88
Fulicare & Austar	0	0%	0	0%	160	62.02%	98	37.98%	160	62.02%	98	37.98%	0	0%	0	0%	258
MERRY Canada	1	4.35%	22	95.65%	0	0%	0	0%	1	4.35%	22	95.65%	0	0%	0	0%	23
SEAS	12	42.86%	16	57.14%	0	0%	0	0%	12	42.86%	16	57.14%	0	0%	0	0%	28
MERRY Malaysia	2	33.33%	4	66.67%	0	0%	0	0%	2	33.33%	4	66.67%	0	0%	0	0%	6
Total	1,001	14.30%	984	14.06%	2,387	34.10%	1,591	22.73%	2,528	36.12%	1,799	25.70%	1215	17.36%	1457	20.82%	5,963

Human Resources Data

標準	Taiwan HQ	Merry Shenzhen	Merry Vietnam	Merry Thailand	Suzhou Merry	AST
Quality management						
ISO 9001:2015	2024-07-12	2026-11-12	2026-10-29	2025-03-24	2026-10-12	2024-07-04
Labor, environment, ethics, health and safety						
RBA		2025-04-20	2025-07-13			
ISO 45001:2018	2024-09-28	2026-11-29	2026-10-29			2024-07-04
Environment						
ISO 14001:2015		2024-11-17	2024-01-04	2024-12-24		2024-07-04
IECQ-QC080000:2017		2026-01-21	2026-10-29			
ISO 14064-1:2018	2023	2023	2023			
ISO 50001:2018	2025-11-06	2023-12-01				
SONY GP/ASUS GP	2027-02-28	2023-04-30				
Intellectual Property Rights						
Taiwan Intellectual Property Management System (TIPS)	2024-12-31					
GB/T 29490-2013		2027-01-22				
Information Security						
ISO 27001:2013	2024-12-06	2025-11-23	2025-11-16			

Environmental Data

GHG Emissions				
Unit：MT CO2e	2023	2022	2021	2020
Scope 1	1,591.62	1,282.06	1,348.56	742.29
Scope 2	16,669.76	19,972.47	24,674.52	17,312.30
Scope 3	14,692.07	15,874.10	6,282.59	413.69
Total	32953.45	37,128.62	27,996.96	18,468.28
Scope 1+ 2 GHG intensity (Mt CO2e/million NTD- revenue)	0.484	0.600	0.719	0.524

Water Usage				
unit:ML	2023	2022	2021	2020
Total Water Withdrawal	30.36	366.57	354.00	299.54
Water Withdrawal Ratio in Water Stressed Areas	14.67%	31.70%	22.73%	7.66%
Definition of water stress areas	High and Extremely high areas in the WRI water risk map			
WRI Water Risk Atlas tool	https://bit.ly/3t9cnwF High and Extremely high areas			

Weight of Waste				
Unit：MT	2023	2022	2021	2020
Weight of waste output	717.47	724.14	640.25	471.09
Weight of waste for recycling	460.44	512.41	401.59	287.15
Weight of waste for direct disposal	257.02	211.74	238.67	183.93