

2024

Nuvoton Technology Sustainability Report

Be a hidden champion in providing sustainable
semiconductors to enrich human life.

nuvoTon



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Introduction

About this Report

Message from Management

Achievements and Recognition in 2024

About this Report

Framework and Writing Principles of the Report

Since 2012, Nuvoton Technology Corporation (hereafter referred to as “Nuvoton” or “the Company”) has been voluntarily publishing Corporate Social Responsibility (CSR) reports, which were renamed Sustainability Reports in 2021. Since 2012, Nuvoton has also been publishing English reports to enhance its level of communications. Following the guidelines set forth by the Global Sustainability Standards Board (GSSB) in 2021, the Global Reporting Initiative (GRI) Standards, the industry-specific standards issued by the Sustainable Accounting Standards Board (SASB) in 2023, and the framework of the Task Force on Climate-related Financial Disclosures (TCFD), this 2024 report provides stakeholders with an understanding of Nuvoton’s achievements in and plans for fulfilling environmental, social, and governance aspects (ESG). If there are differences in topics or data collection that affect the information coverage across different chapters, explanations will be provided in the appendix.

Scope and Disclosure Period of the Report

The reporting period for the content and data disclosed in this report covers the year 2024 (January 1 to December 31). Both sustainability and financial data are presented on a consolidated basis, including Nuvoton’s operations in Taiwan, its subsidiary Nuvoton Technology Corporation Japan (NTCJ), as well as overseas subsidiaries located in Mainland China, Israel, the United States, India, Germany, South Korea, and Singapore. All financial figures are presented in New Taiwan Dollars (NTD). The financial data for Nuvoton Japan is converted based on the exchange rate data of the Bank of Taiwan as of December 31, 2024 (the last trading day of 2024), using the rate of JPY 1 = NT\$ 0.2006.



Issuance Date for
Current Year:
August 2025



Issuance Date for
Previous Year:
May 2024



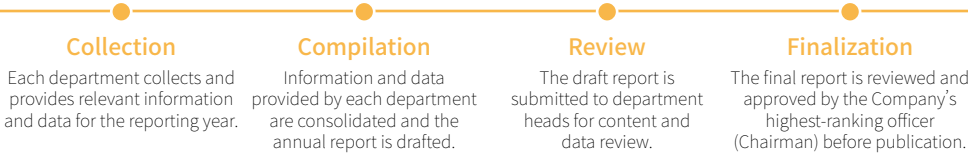
Issuance Date for
the Next Year:
Estimated August 2026

External Assurance

This report has been verified by an independent third-party organization, TÜV Rheinland Taiwan Ltd., to confirm compliance with GRI Standards (2021) and assurance at the moderate level according to AA1000AS TYPE I verification standard. The assurance statement is provided in [Appendix 8](#) of this report for reference.

Report Review and Management Process


Information or data disclosed in this report is provided by respective departments. After the completion of the Sustainability Report, it is submitted to department heads for confirmation and undergoes internal audit according to the operational procedures of sustainability reporting and assurance. Subsequently, it will be presented to the Board of Directors on August 1, 2025.





Contact Window


If you have any feedback or suggestions regarding this report, please feel free to contact us through the following channels:


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Message from Management

Words from the Chairman

Looking back at the challenges of the past, particularly an overall market contraction and a challenging economic environment encountered in 2023, our team has consistently demonstrated unwavering commitment and diligent effort. By harnessing Nuvoton's diverse product portfolios and the expertise of eight business groups across Taiwan and Japan, we have effectively utilized our distinctive strengths in product diversification to confidently move forward into 2024.

Therefore, despite the impact of geopolitical tensions and the underperformance of the automotive and consumer electronics markets in 2024, we remain dedicated to enhancing our market diversification strategy, and attach more importance to the long-term growth markets such as automotive electronics and the industrial Internet of Things (IoT), while actively expanding into application areas like AI and green semiconductors, in order to reduce our dependence on any single market. The diverse range and comprehensive portfolio of products will enhance our global presence, establish an international brand, and maximize opportunities.

Facing uncertainties caused by geopolitics, we have implemented a diversified supply chain strategy, established customer-focused global service teams to provide technical support in the United States, Japan, and Singapore, actively improved the flexible management of upstream and downstream supply chain, and sought alternative solutions from various regions. This approach not only reduces geopolitical risks but also ensures the resilience of the overall supply chain and product technical support.

In climate change, Nuvoton is steadfastly progressing towards achieving net carbon zero by 2050. We have consistently implemented energy-saving and carbon reduction solutions. These solutions include substituting liquefied petroleum gas with natural gas, optimizing and adjusting the consumption of process gases, and obtaining GHG emissions reduction credit for early stage projects from the Ministry of Environment. As an IC design company, Nuvoton is committed to sustainable development from the outset, and invests its R&D resources to green products and low-power, high-efficiency and secure solutions.

Besides incorporating sustainable development into our operations, Nuvoton also prioritizes the sustainability of talents. In 2024, we announced our participation in the 2024 TALENT, in Taiwan, Taiwan Talent Sustainability Development Alliance. We are dedicated to fostering a diverse, equitable, and inclusive workplace for our employees by organizing DEI (Diversity, Equity, and Inclusion) activities and promotions, implementing comprehensive health support programs, establishing a complete functional and learning resource system, and conducting our first human rights due diligence. Ultimately, it's expected that this sustainability report will allow us to showcase our achievements and capabilities in various areas, foster strong relationships with stakeholders, and consistently strive for a sustainable future.

Chairman

Yuan-Mou Su



Words from the President

In 2024, the slowdown in the global automotive market and geopolitical uncertainties have brought unprecedented pressure to Nuvoton's operations. Nonetheless, these challenges also offer opportunities for transformation and innovation.

Nuvoton has adopted and expanded a diversified product portfolio strategy into the automotive and industrial IoT sectors to mitigate market volatility risks. We have also enhanced the resilience of our supply chain to guarantee a steady product supply while proactively tackling geopolitical challenges. Furthermore, our global market layout, including the establishment of new offices in the United States, Germany, and India, aims to capitalize on growth opportunities.

In product innovation and R&D, we prioritize green design and manufacturing trends, increase investments in Edge Computing Microcontroller Units (MCUs) and AI PCs used for the field of Artificial Intelligence (AI), and focus on developing high-performance, energy-efficient green products and advance safety technologies. We are actively enhancing product computing performance and security, creating high-efficiency products to reduce energy consumption, and employing intelligent power management technology to reduce the carbon footprint of the overall PC and Server industry. Our green technologies, such as 48V fan drivers and battery management technologies, have achieved significant results in energy saving. In response to the challenges of green product development, a green supply chain management platform is established to collaborate with suppliers to reduce harmful substances and enhance the environmental performance of production processes.

We recognize the importance of AI in various industries worldwide and are actively investing in the R&D of next-generation MCU, neural processing unit (NPU), and microprocessor unit (MPU) solutions to drive the growth of the AI application market. In the sector of AI, we launched several highlight products in 2024, including a new terminal AI platform and the NuEdgeWise, a machine learning development tool. We also introduced the NuEzAI-M55M1 no-code development board powered by the M55M1 microcontroller, enabling developers to expedite the training and deployment of image recognition models.

These strategies and innovations enable Nuvoton to drive the development of the industrial IoT sector, and help Nuvoton achieve the dual goals of technological progress and environmental responsibility. We will persist in our efforts to lead the industrial IoT sector, and explore the depths of smart manufacturing and industrial automation markets. In line with the global shift towards a low-carbon economy, we aspire to be the preferred choice for industrial users, and consistently deliver efficient, stable, and sustainable development solutions to our customers.



President

Hsin-Lung Yang

Achievements and Recognition in 2024



Won the “Corporate Sustainability Reporting Awards – **Platinum in the Electronics and Information Manufacturing**” at the 2024 Taiwan Corporate Sustainability Awards (TCSA)



Won the “Outstanding Performance in Sustainable Practices – **Workplace Well-being Leadership Award**” at the 2024 Taiwan Corporate Sustainability Awards (TCSA)



Selected into Constituent Stocks of the “**Taiwan High Compensation 100 Index**” by the Taiwan Stock Exchange & Ranked in the **Top 6~20% in Corporate Governance Evaluation** for Listed Companies



Listed in “**2024 Taiwan FINI 100**”



Awarded as **an outstanding company** in the “Proactive Evaluation of Occupational Health and Safety Indicators in Corporate Sustainability Reports”



Awarded “**Asia-Pacific Climate Leaders 2024**” by the Financial Times and the International Research Institute Statista



The low power microcontroller NuMicro® M2L31 series was honored with the 2024 “EE Awards Asia” - Product Award (Taiwan), receiving the title “**Best MCU/Driver IC of the Year.**”



Selected as one of the “**Top 100 Enterprises in Carbon Competitiveness**” by Business Weekly for two consecutive years



Awarded a “**B Management**” level rating for “**Climate Change**” and a “**B- Management**” level rating for “**Water Security**” in the Carbon Disclosure Project (CDP)

Chapter 1

Sustainability Communication

1.1 Company Profile

1.2 Nuvoton's Values

1.3 Governance for Sustainable Development

1.4 Analysis of Material Topic and Stakeholder Communication



1.1 Company Profile

In the name of Nuvoton Technology Corporation: Nuvoton is the combination of “Nuvo” and “Ton.” “Nuvo” in French is pronounced close to “Nouveau” (new). “Ton” in English is pronounced close to “Tang” as in the Tang Dynasty. The Tang Dynasty was one of the most prosperous dynasties in the history of China. The Tang Dynasty attained stellar achievements in international cultural exchange, economic trade, and technological innovation, making it the center of the world. Nuvoton shall uphold the innovation spirit of excellence in development and the close customer relationship as well as converge talents around the globe to lived up to the vision of Nuvoton—Be a Hidden Champion in Providing Sustainable Semiconductors to Enrich Human Life. Meanwhile, it signals the spirit of Nuvoton to usher in the whole new epoch like the Tang Dynasty in the IC industry.

Nuvoton Technology Corporation (Stock Code: 4919) was founded with the mission of delivering innovative solutions to the semiconductor industry. Established in 2008, the Company commenced operations in July of the same year after acquiring the Logic IC business unit from Winbond Electronics Corporation through a business spin-off. Nuvoton was officially listed on the Taiwan Stock Exchange in 2010. Nuvoton specializes in the development of IC products for microcontroller/voice applications, cloud security, battery monitoring, image sensing, IoT applications, and semiconductor components. Its products are widely adopted in industrial, automotive, communication, consumer electronics, and computer markets, where the Company holds a leading position. Additionally, Nuvoton owns a 6-inch wafer fabrication plant, which offers a wide range of process technologies and provides professional foundry services. The Company delivers cost-effective products by leveraging its flexible technologies, advanced design capabilities, and integration of digital and analog technologies. Nuvoton values long-term relationships with its customers and partners and is committed to continuous innovation in products, processes, and services. To strengthen regional customer support and global operations management, Nuvoton has established offices in the United States, Mainland China, Israel, India, Singapore, South Korea, Japan, and Germany.



Company Overview

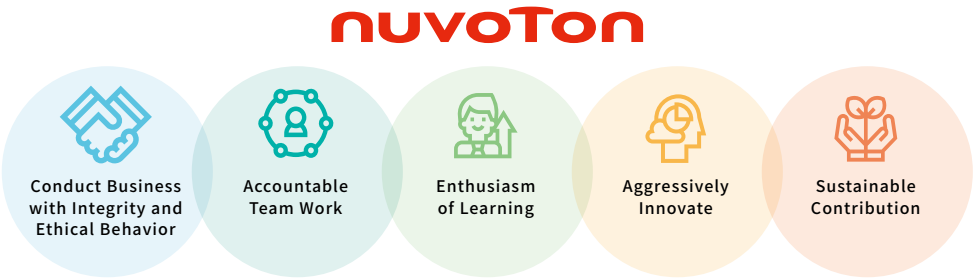
Capital	NT\$ 4,197,652,680
The World Number of Employees	3,719
Main Products and Technologies	The Company's Core business focuses on the design, sales, and wafer foundry services of integrated circuits (ICs). The primary products are general ICs, and the Company also provides specialized wafer foundry services.
Chairman	Yuan-Mou Su
Vice President	Karen K Chiao
President	Hsin-Lung Yang
Headquarters	No. 4, R&D Road 3, Science-Based Industrial Park, Hsinchu City 300, Taiwan
Global Locations	Apart from the Taiwan headquarters, Nuvoton has operational locations in the United States, Mainland China, Israel, India, Singapore, South Korea, Japan, and Germany. World Wide Location - Nuvoton

Business Performance in 2024

Revenue NT\$ 319.2 billion	Earnings per share NT\$ 0.52	Net Profit NT\$ 2.2 billion

Business Philosophy and Corporate Culture

With an agile capability in innovative technology, comprehensive product solutions, and excellent technical synergy combined, Nuvoton offers cost-effective products and better services to its clients based on the existing solid foundation. It lives up the corporate culture of “Conduct Business with Integrity and Ethical Behavior; Accountable Team Work; Enthusiasm of Learning; Aggressively Innovate; Sustainable Contribution” in the various business activities, working toward the vision, “Be a Hidden Champion in Providing Sustainable Semiconductors to Enrich Human Life.”



External Collaborations

Nuvoton actively participates in domestic and international industry and R&D technology associations. Through regular and irregular meetings with association members, it builds bridges of communication with the industry. Engaging in discussions with other industry leaders and expert scholars enables Nuvoton to gain valuable insights into the latest industry dynamics and development trends. Additionally, participation in association activities also contributes to enhancing Nuvoton’s brand image and visibility, garnering more recognition, increasing trust among customers and partners, and promoting business expansion and market competitiveness. Participation in association activities is not only a responsibility but also a valuable opportunity and resource to enhance the Company’s professional image and market influence.

Organizations Participated	Title/Status	Year of First Participation
Micro Sensors and Actuators Technology Consortium (μSAT) (MEMS Industry-Academia Alliance)	Member/Participation in the member meeting	2018
The Allied Association for Science Park Industries (ASIP)	Member/Participation in the member meeting, vice general convener of the Public Affairs and Planning Committee	2008
Taiwan Electrical and Electronic Manufacturers' Association (TEEMA)	Served as Director	2009
The Chinese National Association of Industry and Commerce, Taiwan (CNAIC)	Member/Participation in the member meeting	2022
Hsinchu Science Park Water and Electricity Supply Committee	Group member/Information reception	2008
Hsinchu Science Park Emergency Response Mutual Aid Group (Autonomous)	Member/Participation in the member meeting and drills	2021
The Allied Association for Science Park Industries (ASIP) - Hsinchu Science Park Occupational Health and Safety Committee and Environmental Committee	Member/Participation in the member meeting	2008
Open Compute Project	Member/Participation in the member meeting	2023



Organizations Participated	Title/Status	Year of First Participation
Japan Electronics and Information Technology Industries Association (JEITA)	Member/Participation in the member meeting	2014 ¹
Vehicle Information and Communication System Center (VICS)	Member/Participation in the member meeting	2014 ¹
4C Entity, LLC	Member/Participation in the member meeting	2020
SD Association (SDA)	Member/Participation in the member meeting	2020
SD-3C LLC	Member/Participation in the member meeting	2020
Digital Content Protection, LLC	Member/Participation in the member meeting	2020
HDMI Licensing Administrator, Inc.	Member/Participation in the member meeting	2020
HDMI Forum, Inc.	Member/Participation in the member meeting	2020
Video Electronics Standards Association (VESA)	Member/Participation in the member meeting	2020
HDR10+ TECHNOLOGIES, LLC	Member/Participation in the member meeting	2020
Japan Industrial Imaging Association (JIJA)	Member/Participation in the member meeting	2020
IC System Security-Round Table	Member/Participation in the member meeting	2020
Congress of Japan Railway Cybernetics	Member/Participation in the member meeting	2020
Japan ID Connect with Secure Authentication Promotional association (JISCAP)	Member/Participation in the member meeting	2020
Japan Business Machine and Information System Industries Association (JBMA)	Member/Participation in the member meeting	2020
The Japan Society of Applied Physics	Member/Participation in the member meeting	2020
Japan Automotive ISAC (J-Auto-ISAC)	Member/Participation in the member meeting	2020
The Japan Institute of Power Electronics	Member/Participation in the member meeting	2022
The Institute of Electrical Engineers of Japan	Member/Participation in the member meeting	2022
Japan Society of Refrigerating and Air Conditioning Engineers	Member/Participation in the member meeting	2022
Edge Platform Consortium (EPFC)	Member/Participation in the member meeting	2023
Nippon Electronic Device Industry Association (NEDIA)	Member/Participation in the member meeting	2014 ¹

¹ Nuvoton Japan, originated from the Panasonic semiconductor business, merged with Nuvoton in 2020, when being part of this association.



1.2 Nuvoton's Values

From IC design and production technology to final product applications, Nuvoton consistently drives innovations to provide customers with low-power, lighter green products. By leveraging intelligent power management technology, it aids the overall PC & Server industry in reducing its carbon footprint. Furthermore, through medical devices, IoT devices, and smart city solutions, Nuvoton continues to make a significant social impact. These products not only enhance efficiency and performance but also bring more convenience and accessibility to society, enhancing Nuvoton's competitiveness in the smart manufacturing and industrial automation markets, and seizing the global demand for green technology. Nuvoton is actively expanding into the AI applications market, with a strong commitment to developing next-generation microcontroller unit (MCU) and microprocessor unit (MPU) technology solutions.

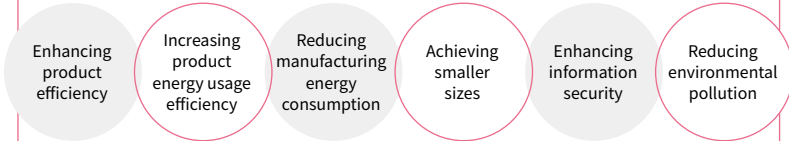
Product Types	Microcontroller ¹	Audio	Cloud Computing	Semiconductor Components	Image Sensing Technology	Battery Monitoring
Areas of application	▲ 5G	▲ Smart industry	▲ Edge computing	▲ Industrial equipment	▲ Autonomous mobile robots (AMR)	▲ Electric vehicles
	▲ Energy management	▲ Smart robots	▲ Remote management for server-specific purposes	▲ Fiber optics communication	▲ Human behavior recognition	▲ Home appliances
	▲ Smart IoT	▲ Conference systems	▲ Power management	▲ Wearable devices	▲ Obstacle sensing	▲ Fan motors
	▲ Industrial control	▲ Smart appliances	▲ Computer hardware monitoring	▲ Smartphones	▲ Photographic equipment	
	▲ Smart factory	▲ Smart speakers	▲ Communication devices (mobile phones and laptops)	▲ Tablets	▲ Medical endoscopes	
	▲ Edge AI	▲ Smart home entertainment				
	▲ IoT security	▲ Smart cars				
	▲ Base stations	▲ Smart interactive toys				
	▲ Servers					
	▲ Smart home					
	▲ Communication devices					
	▲ Automotive electronics					
	▲ Consumer electronics					
	▲ Audiovisual equipment					
	▲ Gaming devices					

1 This includes products from Nuvoton's Microcontroller Business Group and IoT Business Group.

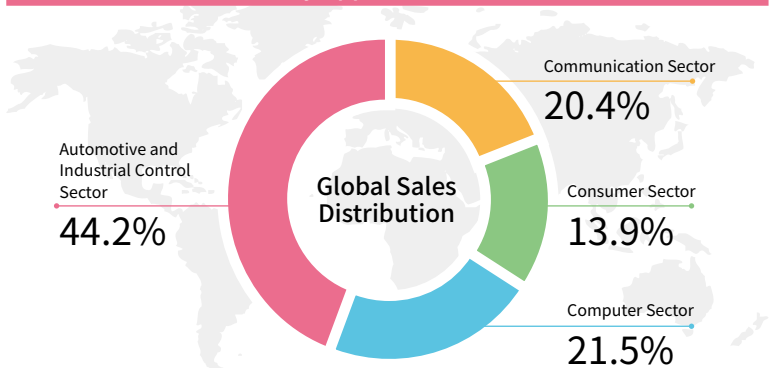
Key focuses in design and development



Innovative product advantages



Global Revenue Share by Application Area for Nuvoton in 2024



1.3 Governance for Sustainable Development

Sustainability Development Committee

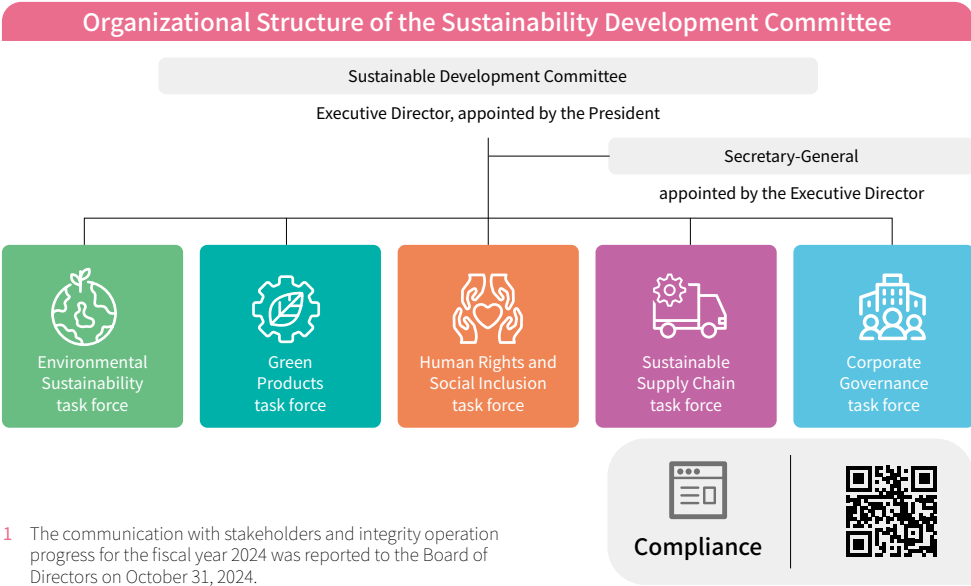
Nuvoton is committed to becoming a “Hidden Champion in Providing Sustainable Semiconductors to Enrich Human Life.” Under the leadership of its management team, the Company upholds integrity, innovation, and passion, continually enhancing its corporate value while staying attuned to global trends, addressing social issues, and meeting stakeholder expectations. Nuvoton develops its strategic framework based on the three ESG pillars (Environmental, Social, and Governance), aligning with 13 United Nations Sustainable Development Goals (SDGs). The Company implements action plans to integrate sustainability concepts into its core capabilities, fostering a new future through talent, processes, and technology, thereby creating positive possibilities for society. Nuvoton also pledges to achieve its corporate sustainability vision with the goal of “Sustainable Operation” and the approach of “Innovative Improvement.”

To ensure the adherence to sustainable business practices and establish a sustainable governance framework, Nuvoton has internally set up a Sustainability Development Committee. This committee serves as the highest governing body for the Company’s sustainable development operations. It is either chaired by the president or a senior executive appointed by the president, who is responsible for driving sustainability initiatives. The committee oversees the organization’s sustainable impacts and sustainable development management policies in the areas of economy, environment, and people (including human rights). Task forces have been established in both Nuvoton Taiwan and Nuvoton Japan to address five major functions, each tasked with setting short-, medium-, and long-term goals. These task forces are responsible for developing annual action plans, which are monitored quarterly by the Sustainability Development Committee. The committee chair regularly reports progress to the Board of Directors.

To implement corporate sustainability and management, Nuvoton promotes sustainable development in the areas of economy, governance, environment, and society. The Sustainability Development Committee has formulated the “Nuvoton Technology Corporation Sustainability Practice Guidelines,” which have been approved by the Board of Directors as the highest guiding principles for Nuvoton’s sustainability practices. These guidelines adhere to the Taiwan government’s “Corporate Sustainability Practice Guidelines for Listed and OTC Companies.” Upholding the concept of sustainable operation,

Nuvoton continually monitors domestic and international sustainability guidelines and regulatory trends to ensure that its sustainability-related business activities comply with legal requirements.

The Nuvoton Sustainability Development Committee provides regular reports to the Board of Directors on ESG sustainability promotion, greenhouse gas emissions (including those in Taiwan and Japan), energy management, water resource management, circular economy, air pollution control, hazardous substances management, and the implementation of measures to balance the interests of stakeholders and promote integrity operation.¹ Board members offer timely guidance on various aspects of sustainability management and provide suggestions for long-term sustainability development directions.



1.4 Analysis of Material Topic and Stakeholder Communication

Analysis of Material Topic

Nuvoton pursues corporate sustainability by referencing the 2021 version of the Global Reporting Initiative (GRI) Standards and the AA1000 Accountability Principles Standard issued by the Global Reporting Initiative (GRI). It identifies material topic based on the principles of inclusivity, materiality, responsiveness, and impact. Following the GRI 3: Material Topics 2021 framework, it constructs a process for analyzing material topic to assess the positive and negative impacts of these issues on the environment, economy, and people (including human rights).

To align with the IFRS Sustainability Disclosure Standards S1 and S2, the boundaries for sustainability reporting are consistent with the financial statements, adopting the consolidated financial reporting scope. Therefore, Nuvoton's sustainability report is developed in collaboration with the parent company, Winbond Electronics Corporation, to conduct a material topic survey, ensuring consistency within the group. This approach enhances the completeness and comparability of the report.

This approach aligns with the international trend in sustainability reporting and aids the Group

in integrating and coordinating efforts on sustainability topics. Nuvoton has progressively collaborated with the disclosure framework of its parent company, Winbond, to advance the integration of sustainability information at the group level and to adjust relevant processes and system construction as necessary. Concurrently, it has actively developed a cross-departmental cooperation mechanism to improve employees' overall understanding and application of sustainability disclosure standards through education and training. Given that Nuvoton's paid-in capital is classified within the "capital amounts ranging from NT\$ 2 billion to less than NT\$ 5 billion" category, it is expected that the IFRS S1 and S2 standards will be adopted by 2028. In the process of promoting corporate sustainability, Nuvoton regards the United Nations Sustainable Development Goals (SDGs) as the core of material topics and aligns with 13 targets of the SDGs. From this point forward, the Company can develop more comprehensive strategies, set specific goals, and achieve significant results through continuous effort and innovation. This not only assists the Company in achieving a balance across environmental, economic, and social dimensions, but also fosters a unified vision for global sustainability.

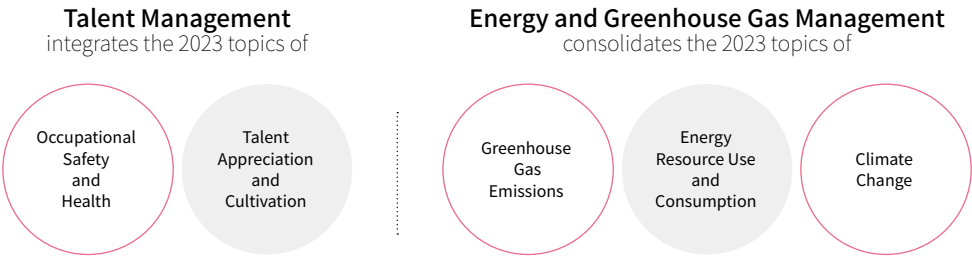
Analysis Process of Material Topic

01 Establishing Sustainability Issues Database	02 Surveying Issues of Concern by Stakeholders	03 Evaluating Sustainability Impacts	04 Ranking and Confirming Material Topic	05 Approval of Material Topic
20 Sustainability Issues	1,174 Surveys on Stakeholder Concerns	18 Surveys for Assessing Sustainability Impact	9 Material Topics	Presented to the Board of Directors for Approval
Drawing upon past sustainability issue databases, we examine industry sustainability practices in alignment with international trends to establish this year's sustainability issue repository. This repository encompasses sustainability issues across four dimensions: economic, governance, environmental, and social.	To gauge the level of stakeholder concern regarding sustainability topics, we distributed stakeholder concern surveys to various stakeholders to ascertain the significance of various stakeholders to the Company. Finally, stakeholder concern regarding sustainability topics were calculated based on the results of both surveys.	Representatives from Senior Management of Nuvoton, as well as representatives from task forces under the Sustainability Development Committee, evaluated the positive and negative impacts and likelihood of occurrence of sustainability topics on the environment, economy, and population (including human rights) using sustainability impact assessment questionnaires.	Building upon the significance of impacts determined from the results of Phases 02 and 03 of the questionnaire by the Group Senior Management, issues from governance, economic and social dimensions were selected, considering adjustments to the Group's sustainable development priorities, to form the final 9 material topics.	The Sustainability Development Committee reviewed the analysis results of the material topic and task forces formulated management policies for each material topic. Finally, these were presented to the Board of Directors for approval.

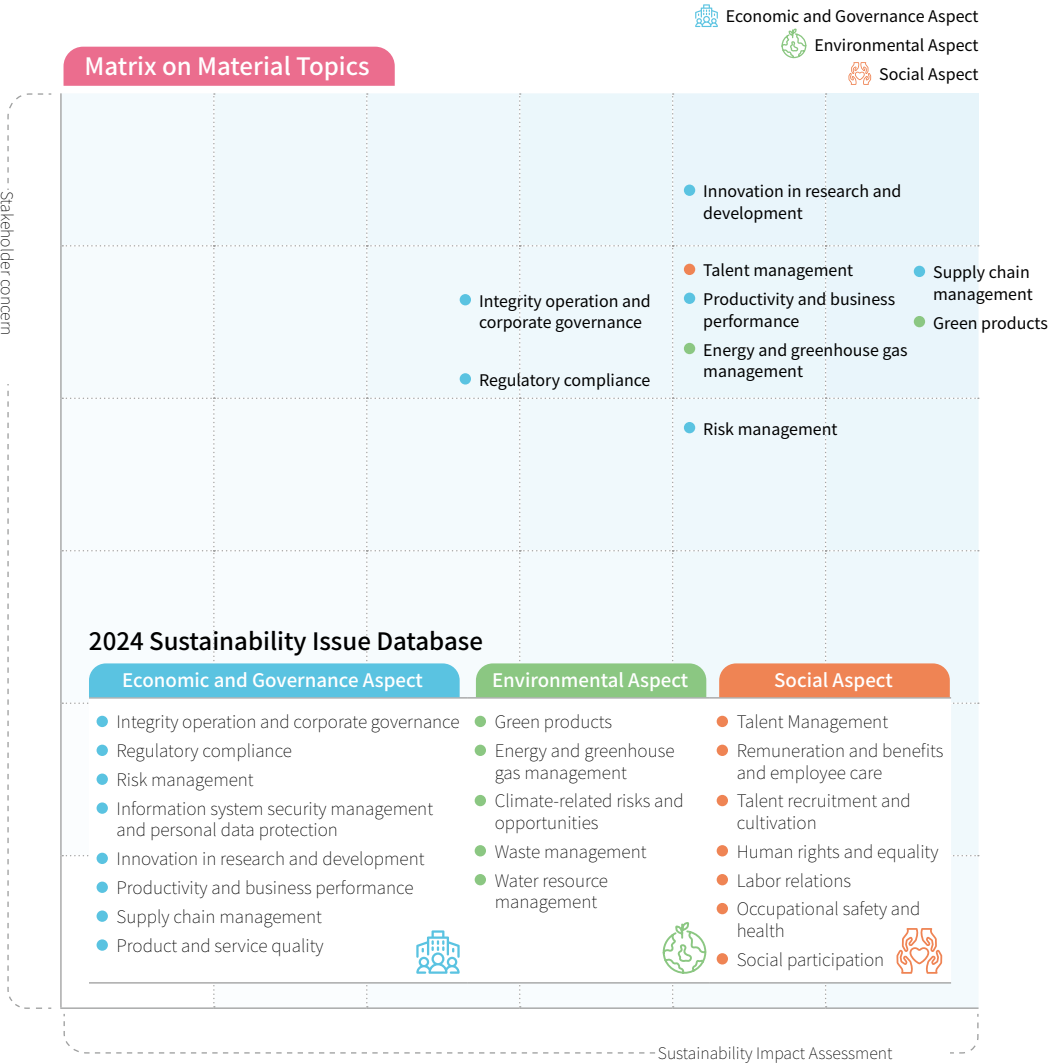
Matrix on Material Topics

To maintain consistency between sustainability information disclosures and financial information, and to adhere to the IFRS Sustainability Disclosure Standards S1 and S2, the entity responsible for reporting sustainability-related financial disclosures should be identical to the one responsible for reporting financial statements. In other words, the consolidated financial reporting entity should serve as the scope for sustainability reporting. Consequently, Nuvoton will partner with its parent company, Winbond, to perform a unified material topic assessment. The assessment results will be integrated into a cohesive set of material topics for the Group, thereby improving the report's consistency, completeness, and international comparability. This approach is in line with the global trend in sustainability disclosures and aids in the coordination and enhancement of sustainability strategies within the Group.

This image illustrates a matrix on material topic. It is generated based on the weighted stakeholder concern scores and sustainability impact assessment results, with adjustments and prioritization informed by the Group's key sustainability development objectives, ultimately establishing 9 material topics for the year 2024 (as shown in the table below). Compared to 2023, this year introduced two new topics: "Regulatory Compliance" and "Green Products" and adjusted and consolidated the names of some material topics to align with our parent company, Winbond.



Through this integration and adjustment, Nuvoton will more closely align with international standards and the Group's development direction, enhancing the overall benefits of sustainability management.



List of Material Topics and Their Impact

Corresponding GRI Themes and Standards	Corresponding SASB-specific Topics	Aspects of Impact		Impact Description (Economic, Environmental, Population Risks and Opportunities)	Related Chapter	Lead Divisions
		Positive	Negative			
Material Topics ¹ : Innovation in research and development						
Significance for Nuvoton: Innovation in research and development is crucial to Nuvoton’s sustained growth, boosting product competitiveness, expanding market opportunities, and addressing the diverse needs of customers. By technological advancements and differential products, the Company enhances brand value and operational efficiency, cuts costs, and sustains a competitive advantage in a swiftly evolving industry landscape.						
Customized Topic	-	<div>Positive</div> <div>Continuously enhancing enterprise innovation and growth momentum by providing novel products and services and increasing market share</div> <div>Negative</div> <div>Failure to retain advanced technologies may result in the inability to provide innovative services or products in response to market changes, reducing market competitiveness</div>	<div>Economic</div> <div>Practicing innovation, creativity, and entrepreneurship annually to promote the idea of industry digital prosperity through innovation</div> <div>Environment</div> <div>Integrating environmental and intelligent technologies to expand applications can accelerate data integration and monitoring, reducing environmental impacts</div> <div>People</div> <div>Encouraging employees to contribute innovative ideas and rewarding selected proposals, actively promoting innovation through strategic and concrete actions</div>	2.1 Innovation in research and development	Green Products task force of the Sustainability Development Committee	
Material Topics ¹ : Green products						
Significance for Nuvoton: Green products can boost Nuvoton’s competitiveness and brand image, and are in line with environmental regulations and market demands. Energy-saving and low-carbon design reduces the Company’s environmental impact and meets customers’ sustainability requirements. At the same time, resource efficiency is improved and operational risks are reduced to secure long-term developmental benefits.						
417 Marketing and Labeling	-	<div>Positive</div> <div>Developing green products contributes to enhanced brand image, attraction to customers with environmental awareness, satisfaction of market and regulatory requirements, promotion of sustainability, and improvement of competitiveness and market share</div> <div>Negative</div> <div>Developing green products raises R&D and production costs and necessitates supply chain adjustments, while the uncertainty of market demand may impact investment returns, thereby increasing operational risks</div>	<div>Economic</div> <div>Enhance corporate competitiveness, fulfill market and regulatory requirements, attract consumers with environmental awareness and generate new business opportunities</div> <div>Environment</div> <div>Reduce carbon emissions and resource consumption, minimize pollution, and promote a circular economy and sustainable development</div> <div>People</div> <div>Improve consumer health and quality of life, foster environmental awareness, and encourage green consumption patterns</div>	2.2 Green manufacturing 2.3 Quality and responsibility	Green Products task force of the Sustainability Development Committee	

1 Changes in the List of Material Topics: The material topics for Nuvoton in 2024 are aligned with its parent company, Winbond, and have been adjusted in three directions. 1. Change of names: such names adopted in 2023 as "Management strategy and business performance," "Innovation and R&D management," "Corporate governance and business integrity," "Supplier sustainability management" and "Information security and privacy protection" were changed to "Productivity and business performance," "Innovation in research and development," "Integrity operation and corporate governance," "Supply chain management" and "Risk management," respectively. 2. Consolidation of multiple topics: such topics adopted in 2023 as "Occupational safety and health," "Talent appreciation and cultivation" were consolidated to "Talent management," while "Greenhouse gas emissions," "Energy resource use and consumption" and "Climate change" to "Energy and greenhouse gas management." 3. Added topics: Regulatory compliance and green products. A total of 9 material topics were selected for the year 2024.

Corresponding GRI Themes and Standards	Corresponding SASB-specific Topics	Aspects of Impact	Impact Description (Economic, Environmental, Population Risks and Opportunities)	Related Chapter	Lead Divisions
		Positive / Negative			

Material Topics¹: Integrity operation and corporate governance

Significance for Nuvoton: Corporate governance assessment of material topics is critically significant for Nuvoton, as it helps ensure the Company's sustainable development, meet stakeholder expectations, comply with relevant regulations, effectively manage risks, maintain long-term competitiveness, and establish credibility. These elements are crucial for the Company's long-term prosperity.

205 Anti-Corruption 206 Anti-Competitive Behavior	TC-SC-520a.1	Positive Sound corporate governance and integrity operation, and the formulation and implementation of relevant rules and guidelines help establish standards of conduct for operational activities and positively influence the Company, society, and the environment.	Economic Integrity operation and good corporate governance principles are fundamental to business operations, instilling confidence of stakeholders towards Nuvoton, encouraging investment in Nuvoton and commercial transactions with Nuvoton, thereby positively affecting revenue and the economy.	3.1 Corporate governance 3.3 Sustainable business management	Green Products task force of the Sustainability Development Committee, Nuvoton Japan Internal Control Office, Nuvoton Japan Corporate Strategy Office
		Negative Failure to execute comprehensive corporate governance and integrity operation may lead to the misuse of company resources for activities detrimental to the Company, society, and the environment, negatively impacting stakeholders, and even resulting in additional costs related to legal proceedings and lawsuits due to violations	Environment Embracing the concept of integrity operation and having robust governance systems can prevent the Company from engaging in environmentally harmful practices and reduce the occurrence of cost shifting to the environment due to economic considerations.		
			People Effective corporate governance systems and integrity operation practices can prevent the Company from facing legal penalties or even closure due to violations, as well as prevent the misuse of company resources, thereby safeguarding employees' rights and ensuring equal treatment.		

Material Topics¹: Productivity and business performance

Significance for Nuvoton: Management strategy and business performance are key to Nuvoton's sustainable development. Developing comprehensive management strategies can maximize cost utilization and increase revenue, thereby improving corporate profits and operational efficiency.

201 Economic Performance	TC-SC-000.A TC-SC-000.B	Positive Develop comprehensive short-, mid-, and long-term management strategies and goals to effectively enhance operational performance and maintain market competitiveness	Economic Collaborate with academia for early-stage research and implementation to maintain AI development momentum and increase long-term revenue opportunities	3.2 Productivity and business performance	Corporate Governance task force of the Sustainability Development Committee
		Negative Failure to anticipate market changes may result in missed business opportunities, leading to loss of customers and orders	Environment Introduce digital technology into energy-saving applications and facility management to enhance operational efficiency and generate a positive impact on the environment		
			People Develop applications for smart manufacturing to enhance efficiency, process quality, and product yield in work and production		

Corresponding GRI Themes and Standards	Corresponding SASB-specific Topics	Aspects of Impact	Impact Description (Economic, Environmental, Population Risks and Opportunities)	Related Chapter	Lead Divisions
		Positive / Negative			

Material Topics¹: Regulatory compliance

Significance for Nuvoton: Nuvoton upholds the spirit of sustainability and the principles of being a responsible enterprise, and places the utmost importance on regulatory compliance throughout its overall operations.

Customized Topic	TC-SC-520a.1	Positive Enhancing trust, reducing legal risks, and promoting sustainability contribute to market expansion and long-term competitiveness	Economic Ensure legal operations of the Company, reduce fines and legal risks, enhance investor confidence and market competitiveness	3.3 Sustainable business management	Corporate Governance task force of the Sustainability Development Committee
		Negative Increased compliance costs, including resource investment, manpower and process adjustments; failure to adapt to new regulations in real-time may impact operational flexibility and short-term benefits	Environment Encourage the Company to adopt more environmentally friendly technologies and processes to reduce pollution and resource consumption and contribute to sustainability People Safeguard employee rights and consumer safety, enhance social well-being and fairness		

Material Topics¹: Risk management²

Significance for Nuvoton: Ensure the Company's long-term stability and customer satisfaction, and protect the assets and reputation of both the Company and its clients

Customized Topic		Positive Strengthen prevention capacity, decision-making quality and stakeholder confidence through risk management, minimize the effects of unforeseen events, protect assets and ensure operational stability and support long-term growth	Economic Reduce financial and operational risks to ensure stable development of the Company and enhance investor confidence and market competitiveness	3.3 Sustainable business management	Corporate Governance task force of the Sustainability Development Committee
		Negative Establishing and maintaining a risk management system requires investment in funds and manpower, which may increase short-term operational costs, and overly conservative strategies may limit innovation and growth opportunities	Environment Effectively address environmental risks, such as climate change and resource scarcity, and encourage the Company to adopt more sustainable business models People Ensure employee safety and well-being, reduce occupational accidents, and enhance internal stability and trust		

² Risk management includes the content of "Risk management" and "Information system security and personal data protection."

Corresponding GRI Themes and Standards	Corresponding SASB-specific Topics	Aspects of Impact Positive / Negative	Impact Description (Economic, Environmental, Population Risks and Opportunities)	Related Chapter	Lead Divisions
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Material Topics¹: Supply chain management

Significance for Nuvoton: Suppliers provide Nuvoton with the raw materials necessary for its operations and production. Nuvoton is committed to pursuing mutual growth with its suppliers.

204 Procurement Practices	TC-SC-440a.1	Positive	Establish a sound supplier management mechanism and collaborate with suppliers to build a sustainable supply chain. Monitor suppliers' implementation of human rights protection and achieve energy-saving, carbon-reduction, and cost-reduction objectives together	Economic	Establish a comprehensive supply chain management system to stabilize the supply of goods and improve operational efficiency, leading to increased revenue	3.4 Sustainable supply chain	Sustainable Supply Chain task force of the Sustainability Development Committee
308 Supplier Environmental Assessment		Negative	Failure to implement supplier sustainability management may result in the inability to monitor suppliers' human rights and environmental management practices, potentially leading to adverse impacts on the Company, society, and the environment	Environment	Collaborate with suppliers to enhance sustainability performance, including developing energy-saving and carbon-reduction plans. Neglecting environmental management in the supply chain may increase the risk of regulatory violations		
414 Supplier Social Assessment				People	Incidents of human rights disputes in the supply chain may decrease customer trust and order quantity		

Material Topics¹: Energy and greenhouse gas management³

Significance for Nuvoton: Nuvoton recognizes the impact of climate change on corporate sustainability and follows the TCFD framework to identify relevant risks and opportunities and integrate them into risk management and sustainability strategies. The Company is committed to reducing the environmental impact during product design, services, activities, and production processes, and commits to comply with environmental laws and regulations, addressing the needs of stakeholders, and continuously promote energy management systems to achieve an energy-efficient environment.

302 Energy	TC-SC-110a.1	Positive	Enhance the Company's energy efficiency and implement energy conservation and carbon reduction measures	Economic	Establishing an environmental management system to plan, implement, and inspect energy resource management, thereby improving energy resource utilization efficiency	4 Environmental Sustainability	Responsibilities related to climate-related information lie with the finance unit and are jointly supervised by the Sustainability Development Committee and Environmental Sustainability task force of the Sustainability Development Committee
305 Greenhouse Gas Emissions	TC-SC-110a.2	Negative	Failure to properly manage energy resource consumption increases the risk and expenditure of future carbon tax and fee levies	Environment	Improve energy efficiency, use renewable energy, and reduce carbon emissions to lessen environmental burden, contributing to the mitigation of climate change		
	TC-SC-130a.1			People	Strengthen employee awareness of environmental protection and energy conservation		
	TC-SC-140a.1						
	TC-SC-150a.1						

3 Energy and Greenhouse Gas Management includes the contents of "Energy and Greenhouse Gas Management" and "Climate-related Risks and Opportunities."

Corresponding GRI Themes and Standards	Corresponding SASB-specific Topics	Aspects of Impact	Impact Description	Related Chapter	Lead Divisions
		Positive / Negative	(Economic, Environmental, Population Risks and Opportunities)		
Material Topics ¹ : Talent management ⁴					
Significance for Nuvoton: In the pursuit of sustainability, the professional quality and management ability of human resources are the cornerstone of the Company. Nuvoton is well aware that attracting, retaining, cultivating and developing outstanding talents is not only the core mission of itself, but also the key driving force to ensure a leading position in the fierce market competition. At the same time, Nuvoton recognizes that the practice of occupational safety and health is not only a legal responsibility of the Company, but also the foundation for building a healthy, safe and sustainable corporate culture. Through continuous investment in talent and active promotion of occupational safety and health management, Nuvoton is committed to creating a corporate environment that can both protect the well-being of employees and continue to innovate and pioneer the market.					
401 Employment		Positive	Economic		
403 Occupational Safety and Health		Effective talent management attracts and retains outstanding talents, enhances employee satisfaction and productivity, strengthens corporate competitiveness and innovation capabilities, and promotes sustainability and stakeholder trust	Effective talent management enhances productivity and innovation capabilities, strengthens corporate competitiveness, and attracts investment and market opportunities		
404 Training and Education	TC-SC-320a.1		Environment		
405 Employee Diversity and Equal Opportunity	TC-SC-320a.2	Negative	Driving sustainable talent development contributes to the establishment of an environmentally symbiotic and social responsibility culture within the Company	Safe Workplace	Human Rights and Social Inclusion task force of the Sustainability Development Committee
406 Non-discrimination	TC-SC-330a.1	Invest a lot of resources in remuneration and benefits, training, occupational health and safety. Failure in proper management may lead to labor disputes, affecting the Company’s image and operational stability.	People		
408 Child Labor			Enhance employee well-being and job satisfaction, promote harmonious labor relations, attract outstanding talents, and enhance social employment stability. And implement occupational safety and health management to promote the physical and mental health of employees		



⁴ Talent management includes “Remuneration and benefits and employee care,” “Talent recruitment and cultivation,” “Human rights and equality,” “Labor relations” and “Occupational safety and health.”

Material Topics and Action Plans





Nuvoton Taiwan and Nuvoton Japan each have five sustainability task forces dedicated to addressing material topics and implementing action plans. These teams establish short-, medium-, and long-term goals for managing their respective material topics and are responsible for drafting annual action plans. Supervised by the Sustainability Development Committee, their progress is tracked quarterly. The committee chair regularly reports progress to the Board of Directors.

⬆️ Exceeded ⬆️ Achieved ⬆️ Not Achieved



Material Topics ¹	Policies and Commitments	Scope	Strategy	Achievements in 2024	2025 Short-Term Goals	2030 Mid- & Long-Term Goals	Specific Actions	SDGs
Economic and Governance								
Innovation in research and development	<ul style="list-style-type: none">1 Regularly disclose R&D expenditures and number of newly acquired patents2 Maintain the Company's leading position in the industry and continue to provide customers with cutting-edge technology products through the implementation of innovation and R&D management	Nuvoton Taiwan	<ul style="list-style-type: none">➤ The number of products using advanced processes in 2024 grows by more than 50% compared to 2023.➤ Maintain patent scale, with 141 new patent applications	✔️ Maintain patent scale, with 132 new patent applications, of which, AI-related patents account for more than 30%	<ul style="list-style-type: none">➤ The number of products using advanced processes in 2025 will grow by more than 60% compared to 2023.➤ Obtain the TIPS certification will be realized	<ul style="list-style-type: none">➤ The number of products using advanced processes in 2030 grows by more than 90% compared to 2023.➤ Maintain annual TIPS certification	<ul style="list-style-type: none">➤ Continue to invest in R&D and recruit R&D talents to expand innovation and R&D capabilities➤ Provide incentives for new inventors, approved proposals, patent applications, and patent certifications	
		Nuvoton Japan	To maintain its leading position in the existing market and industry, Nuvoton will continue to introduce TMOS's low Ron advanced technology for lithium-ion batteries in smartphones.	✔️ Introduce innovative technologies to reduce the TMOS on-resistance (Ron). The MOS on-resistance (Ron) has been decreased by more than 15% compared to the previous generation, accompanied by energy consumption reduction and thereby product efficiency improvement.	<ul style="list-style-type: none">➤ To maintain our leading position in the market and become an industry leader, we will continue to introduce advanced technologies to reduce the on-resistance TMOS of lithium-ion batteries in smartphones.	<ul style="list-style-type: none">➤ With the growth of the electric vehicle market, we will continue to develop and enhance the sales of in-vehicle BMS products.	<ul style="list-style-type: none">➤ In 2024, 8 TMOS products were developed and innovative technologies were introduced to reduce the on-resistance of MOS. Among these, 5 models achieved a 15% reduction in on-resistance compared to previous models, leading to lower energy consumption and enhanced product efficiency. Consequently, these products are classified as green products. In 2024, the sales revenue was around NT\$ 4.3 billion in the TMOS sector, wherein the sales revenue of green-certified products in 2023 and 2024 was about NT\$ 300 million.➤ To improve production efficiency, we worked with partners to develop 12-inch wafer manufacturing technology, with the expectation of mass production by 2025.	<div>8 DECENT WORK AND ECONOMIC GROWTH</div> <div>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</div> <div>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</div>

1 Changes in the List of Material Topics: The material topics for Nuvoton in 2024 are aligned with its parent company, Winbond, and have been adjusted in three directions. 1. Change of names: such names adopted in 2023 as "Management strategy and business performance," "Innovation and R&D management," "Corporate governance and business integrity," "Supplier sustainability management" and "Information security and privacy protection" were changed to "Productivity and business performance," "Innovation in research and development," "Integrity operation and corporate governance," "Supply chain management" and "Risk management," respectively. 2. Consolidation of multiple topics: such topics adopted in 2023 as "Occupational safety and health," "Talent appreciation and cultivation" were consolidated to "Talent management," while "Greenhouse gas emissions," "Energy resource use and consumption" and "Climate change" to "Energy and greenhouse gas management." 3. Added topics: Regulatory compliance and green products. A total of 9 material topics were selected for the year 2024.







⬆ Exceeded ⬆ Achieved ⬆ Not Achieved

Material Topics ¹	Policies and Commitments	Scope	Strategy	Achievements in 2024	2025 Short-Term Goals	2030 Mid- & Long-Term Goals	Specific Actions	SDGs
Integrity operation and corporate governance	Establish a corporate culture of integrity operation to promote sustainable development	Nuvoton Taiwan Nuvoton Japan	<ul style="list-style-type: none">Corporate Governance Evaluation (listed companies) within 20%Continuously promote integrity operation and compliance education training, with a 100% pass rate for HQ staff training tests	<ul style="list-style-type: none">2024 Corporate governance evaluation (listed companies) 6-20%Training pass rate of 100 %	<ul style="list-style-type: none">Enhance corporate governance mechanisms to ensure that the Company remains in the top 20% in major domestic governance assessments, and all corporate operations comply with both international and domestic laws and regulations with 0 violations	<ul style="list-style-type: none">Enhance compliance management, implement audit systems, and maintain 0 major regulatory violationsIntegrate ESG topics into core management strategiesEnhance corporate image and stakeholder trust through sustainability measures, ensuring 0 major legal and regulatory violations	<ul style="list-style-type: none">All directors complete mandatory continuing education hoursRegularly report communication with stakeholders to the Board of DirectorsInvest in energy-saving or green energy-related environmentally sustainable machinery and equipment, and disclose investment details and specific benefits	
Productivity and business performance	Optimize management strategies and management models by upholding the corporate spirit of innovation and technological leadership. Continuously improve governance performance and financial stability while promoting sustainable business operations to meet the needs of various stakeholders. Align with global sustainability trends and drive Environmental, Social, and Governance (ESG) initiatives to support long-term corporate value and enhance corporate competitiveness and increase market share	Nuvoton Taiwan Nuvoton Japan	<ul style="list-style-type: none">Regularly convene QBR meetings	<ul style="list-style-type: none">4 meetings held in 2024	<ul style="list-style-type: none">Organize 30 digital transformation events and training sessions annuallyExpand target markets by entering new regions or markets	<ul style="list-style-type: none">Set a firm footing in new markets and expand existing market shareAchieve business process automation and enhance data security through digital transformationPromote talent training and development plans to improve employee professional skills and satisfactionContinuously introduce competitive new products or servicesEstablish flexible and sustainable supply chainsImplement digital transformation strategies to improve business efficiency, innovation capabilities, and data securityEstablish internal training and development plans to enhance employee skillsPay continuous attention to Sustainable Development Goals (SDGs) and incorporate them into the Company's business strategy	<ul style="list-style-type: none">In 2024, QBR meetings were convened as planned to thoroughly assess the operational status, focusing on revenue performance, cost management, and significant progress. Follow-up action plans were developed to ensure consistent advancement towards operational objectives.	  


⬆️ Exceeded ⬆️ Achieved ⬆️ Not Achieved

Material Topics ¹	Policies and Commitments	Scope	Strategy	Achievements in 2024	2025 Short-Term Goals	2030 Mid- & Long-Term Goals	Specific Actions	SDGs
Regulatory compliance	Ensure complete adherence to regulations and standards concerning corporate governance, finance, trade, environmental protection, occupational safety and health, information security, intellectual property, labor rights, internal control, and risk management pertain to operations	Nuvoton Taiwan	Adhere to relevant domestic and international regulations, with no significant violations	0 significant violation	Adhere to relevant domestic and international regulations, with no significant violations All employees have completed the required education and training sessions.	Adhere to relevant domestic and international regulations, with no significant violations All employees have completed the required education and training sessions.	Plan courses on gender equality and labor rights regulations and practices, including 4 sessions for new hires, 3 sessions for all employees, and 1 session for supervisors	
		Nuvoton Japan	100% participation rate in regulatory compliance courses	100% course participation rate			6 compliance-related courses were conducted, including Antimonopoly Act, Subcontracting Law, Prevention of Unauthorized Use, Trade Compliance and so forth.	
Risk management ²	We aim to become a “trusted global corporate citizen.” According to information security regulations, we have established an information security system to manage confidentiality, integrity, and availability appropriately to ensure compliance with regulatory, operational, and contractual requirements.	Nuvoton Taiwan	Certified by ISO 27001:2022, the latest international standard All staff have received information security training, with a 100% pass rate. 0 information security incidents affecting company operations	Certified by ISO 27001:2022, the latest international standard, in 2024 All staff have received information security training, with a 99% pass rate. 0 information security incidents affecting company operations	Strengthen information security risk management mechanisms, internal audit processes, information security incident monitoring, and awareness training and drills Enhance information security incident monitoring mechanisms and expand deployment of “Endpoint Detection and Response (EDR) tools” 0 major information security incidents affecting company operations	Strengthen business continuity management to ensure uninterrupted operations during disruptive incidents Establish data protection management norms and continuously promote awareness among employees, and introduce technical solutions to prevent incidents of sensitive data or personal information leakage Integrate AI-based information security solutions to detect internal and external threats and prevent hacking attacks, achieving an efficient response mechanism through automated processes to minimize the impact of information security incidents	Nuvoton Taiwan Implement the new ISO 27001:2022 international information security management system, understand the standard clauses, conduct asset inventory, and analyze the differences between the current situation and the ISO 27001 standards Evaluate the endpoint detection and response (EDR) solutions, including product comparisons and proof of concept (POC) of product functions Evaluate the Data Loss Prevention (DLP) solutions, including product comparison and Proof of Concept (POC) for product functions Nuvoton Japan For the SOC started from 2023, enhance response capabilities by regularly convening Computer Information Security Incident Response Team meetings Conduct network event response training through simulated cyber-attacks	
		Nuvoton Japan						

² Risk management includes the content of “Risk management” and “Information system security and personal data protection.”

Material Topics ¹	Policies and Commitments	Scope	Strategy	Achievements in 2024	2025 Short-Term Goals	2030 Mid- & Long-Term Goals	Specific Actions	SDGs
Supply chain management	<p>In addition to meeting basic occupational safety and environmental protection requirements in supply chain management, Nuvoton has formulated a supplier sustainability management policy and incorporated ESG into supplier evaluation and audit items, with the aim of leveraging its influence to work hand-in-hand with suppliers to emphasize and promote corporate sustainability, achieving the vision of a sustainable supply chain.</p> <p>Nuvoton has established a conflict minerals management policy, committing to 100% non-use of "conflict minerals," and requires suppliers to comply as well.</p> <ul style="list-style-type: none"> Require suppliers to sign the "Non-Use of Conflict Minerals Declaration" to comply with the clause prohibiting the use of "conflict minerals" Require relevant suppliers to regularly conduct thorough investigations and confirm that no metals from conflict regions are used in their products Require suppliers to source 100% of their minerals from smelters or refineries that have passed RMAP verification 	Nuvoton Taiwan	<ul style="list-style-type: none"> Achieve a 25% SAQ (Self-Assessment Questionnaire) completion rate for major suppliers BCP (Business Continuity Plan) Ensure 86% of major suppliers obtain ISO 14064 or equivalent standards certification Have 93% of major suppliers publish ESG reports Complete verification for 50% of major suppliers through RBA VAP 	<ul style="list-style-type: none"> ➡ SAQs have been distributed to major suppliers ↑ 93% of major suppliers are certified in advance ✓ Have 93% of major suppliers publish ESG reports ↑ Complete verification for 57% of major suppliers through RBA VAP 	<ul style="list-style-type: none"> Achieve a 10% SAQ (Self-Assessment Questionnaire) completion rate for major suppliers BCP (Business Continuity Plan) Ensure 100% of major suppliers obtain ISO 14064 or equivalent standards certification Have 93% of major suppliers publish ESG reports Complete verification for 57% of major suppliers through RBA VAP 	<ul style="list-style-type: none"> Achieve a 100% SAQ (Self-Assessment Questionnaire) completion rate for major suppliers BCP (Business Continuity Plan) Ensure 100% of major suppliers obtain ISO 14064 or equivalent standards certification Have 100% of major suppliers publish ESG reports Complete verification for 100% of major suppliers through RBA VAP Based on major suppliers' greenhouse gas emissions reduction targets, an overall 15% reduction is estimated for suppliers (using 2020 as baseline year). 	<ul style="list-style-type: none"> Distribute SAQ questionnaire to evaluate the ESG performance of major suppliers, with a response rate of 78.6% 100% of suppliers signed the RBA Code of Conduct 100% if suppliers signed the "Non-Use of Conflict Minerals Declaration" 100% of suppliers signed the "No Use of Hazardous Substances Declaration" Major suppliers have published ESG (Environmental, Social, and Governance) reports Major suppliers have conducted greenhouse gas emission inventories (ISO 14064) and collected baseline emissions and reduction targets. <p>2 Nuvoton requires that suppliers involved in products containing minerals of concern to the Responsible Minerals Initiative (RMI) must sign the "Non-Use of Conflict Minerals Declaration."</p>	     
		Nuvoton Japan	<ul style="list-style-type: none"> 100% response rate for supplier CSR activity survey (every 2 years) 100% annual response rate for supplier conflict minerals survey 100% response rate for business continuity survey (every 2 years) 100% annual response rate for survey on substances of very high concern (whether purchased materials contain REACH SVHC) 100% annual response rate for carbon neutrality survey 	<ul style="list-style-type: none"> ✓ All survey items achieve a 100% completion rate. 	<ul style="list-style-type: none"> 100% response rate for supplier CSR activity survey (every 2 years) 100% annual response rate for supplier conflict minerals survey 100% response rate for business continuity survey (every 2 years) 100% annual response rate for survey on substances of very high concern (whether purchased materials contain REACH SVHC) 100% response rate for survey on greenhouse gas emissions 	<ul style="list-style-type: none"> 100% response rate for supplier CSR activity survey (every 2 years) 100% annual response rate for supplier conflict minerals survey 100% response rate for business continuity survey (every 2 years) 100% annual response rate for survey on substances of very high concern (whether purchased materials contain REACH SVHC) 100% response rate for survey on greenhouse gas emissions 	<p>A range of surveys using SAQs, templates, and questionnaires that adhere to both global standards and guidelines from Japanese industry associations are conducted to pinpoint potential risks, for which we then mandate corrective actions. The specific actions are as follows:</p> <ul style="list-style-type: none"> CSR <p>According to the sustainability policy of Nuvoton, SAQs are distributed annually to check whether major suppliers comply with the code of conduct requirements, achieving a 100% response rate.</p> Conflict minerals <p>Surveys using the annually updated CMRT/EMRT templates from RMI are administered to major suppliers, with a 100% response rate.</p> Business continuity <p>An annual survey of major suppliers is conducted using the BCP provided by the Japan Electronics and Information Technology Industries Association (JEITA), with a 100% response rate.</p> SVHC <p>A survey of major suppliers is conducted based on internal company standards to determine if they contain REACH SVHC, with a 100% response rate.</p> Greenhouse gas emissions <p>Collect suppliers' emission reduction targets, plans, and annual emissions to maintain ISO 14064 certification</p> Other measures include annual supplier QCDS assessment, stakeholder concern survey, and quality audit 	







⬆️ Exceeded ⬆️ Achieved ⬆️ Not Achieved

Material Topics ¹	Policies and Commitments	Scope	Strategy	Achievements in 2024	2025 Short-Term Goals	2030 Mid- & Long-Term Goals	Specific Actions	SDGs
Environmental aspect								
Green products	With the vision of being a “Hidden Champion in Providing Sustainable Semiconductors to Enrich Human Life,” we are committed to developing high-efficiency, compact, low-energy, and high-quality green IC products and green processes.	Nuvoton Taiwan	➤ Improve product environmental benefits and set a target of reducing the carbon footprint of green products by more than 38%	⬇️ The total reduction in green product carbon footprint is no more than 38%, but the total carbon reduction is 474 tons more than that in 2023.	➤ The number of products using advanced processes in 2025 grows by more than 90% compared to 2023.	➤ The number of products using advanced processes in 2030 will grow by more than 90% compared to 2023.	➤ Continue to focus on research in low-power product performance, accumulate and apply energy-saving knowledge in product design ➤ Collaborate with manufacturers to develop power supply chips, a consumer product (Type-C PD), in line with the unified policy for power supply interface specifications, to reduce electronic waste from related consumer products	
		Nuvoton Japan	➤ Green product sales accounted for 3% of total sales in 2024. ³	⬇️ The result for 2024 was 2.7%, close to the 3% target.	➤ Increase the proportion of green products among all products. Green product sales will account for more than 3% of total sales in 2025.	➤ Green product ⁴ sales will account for over 15% of total sales by 2030.	➤ Nuvoton Japan released multiple green products in 2024, which are widely used in lithium battery protection, wearable devices, and semiconductor laser related products.	

3 Nuvoton Japan's green product certification is categorized into two types: 1. Low-carbon products: These products feature a 5% reduction in chip area and package volume compared to earlier versions; 2. Emission avoidance products: These products achieve either a 15% reduction in chip power consumption or a 10% increase in the luminous efficiency of laser components compared to earlier versions.

4 Products that reduce carbon footprint emissions have 15% lower power consumption or more than 10% higher luminous efficacy than the previous generation.







↑ Exceeded ✓ Achieve — Not Achieved

Material Topics ¹	Policies and Commitments	Scope	Strategy	Achievements in 2024	2025 Short-Term Goals	2030 Mid- & Long-Term Goals	Specific Actions	SDGs
Energy and greenhouse gas management ⁵	Nuvoton has adopted the TCFD-recommended climate risk management to promote various climate change mitigation and adaptation actions. Promote energy conservation and carbon reduction in the manufacturing process, improve energy performance through digital transformation and smart manufacturing, and commit to achieving net carbon zero by 2050 and sustainability	Nuvoton Taiwan	<ul style="list-style-type: none"> Install equipment to reduce fluorinated gas emissions—reduce fluorinated gas emissions by 16% compared to the previous year (60% reduction from the baseline year) Establish a carbon accounting platform - formulate the 2024 plan and proposals for business requirements 2% decrease in electricity consumption compared to 2023 Update chiller hardware and use AI technology to intelligently control the air conditioning system to achieve energy savings 	<ul style="list-style-type: none"> Install equipment to reduce fluorinated gas emissions—reduce fluorinated gas emissions by 16.7% compared to the previous year (77.7% reduction from the baseline year) Establish a carbon accounting platform system implementation plan - currently being implemented according to the schedule 1.5% decrease in electricity consumption compared to 2023 (calculated based on the achieved consumption according to the plan) Control the chilled water system based on AI with estimated saving of 200,000 kWh/year 	<ul style="list-style-type: none"> Install equipment to reduce fluorinated gas emissions—cumulatively reduce fluorinated gas by 88% compared to the baseline year of 2021 5% decrease in electricity consumption compared to the baseline year 2021 	<ul style="list-style-type: none"> Install equipment to reduce fluorinated gas emissions—cumulatively reduce fluorinated gas by 88% compared to the baseline year of 2021 Reduce electricity consumption by 10% compared to the 2021 baseline year 	<ul style="list-style-type: none"> Promote integration (Nuvoton Taiwan/ Nuvoton Japan) meetings Water and energy-saving measure Install green energy equipment Establish an energy management system Optimize system supply loads Prioritize energy-saving equipment when replacing old equipment Purchase energy-saving and carbon-reduction equipment to reduce greenhouse gas emissions Shut down the cogeneration system and replace the chiller unit with a high-efficiency electric heating unit to reduce CO₂ emissions Replace lighting fixtures with LED lamps at the Nagaokakyo plant 	     
		Nuvoton Japan	<ul style="list-style-type: none"> Develop a plan for the introduction of solar power generation 1% decrease in average annual energy resource usage intensity compared to the previous year 26% decrease in greenhouse gas emissions ratio compared to the baseline year 	<ul style="list-style-type: none"> The Power Purchase Agreement (PPA) with the solar power company was signed in 2024, and power supply to the Arai plant will commence in October 2025. 1% decrease in average annual energy resource usage intensity compared to the previous year 31% decrease in greenhouse gas emissions ratio compared to the baseline year 	<ul style="list-style-type: none"> Purchased solar power generation 1% decrease in average annual energy resource usage intensity compared to the previous year 31%⁶ decrease in greenhouse gas emissions compared to the baseline year 2021 	<ul style="list-style-type: none"> Purchased solar power generation From 2025 onwards, the average annual energy resource usage intensity will be reduced by 1% compared to the previous year. 37% decrease in greenhouse gas emissions compared to the baseline year 2021 		

⁵ Energy and greenhouse gas management includes the topics of “Energy and Greenhouse Gas Management” and “Climate-related Risks and Opportunities.”







⁶ From 2024 on, the baseline year is adjusted to 2021 when the Company starts to apply the relevant regulations of the Taiwan Ministry of Environment on carbon fee collection.

⬆️ Exceeded ⬆️ Achieved ⬆️ Not Achieved

Material Topics ¹	Policies and Commitments	Scope	Strategy	Achievements in 2024	2025 Short-Term Goals	2030 Mid- & Long-Term Goals	Specific Actions	SDGs
Social aspect								
Talent management⁷	Nuvoton's commitment to talent appreciation and cultivation goes beyond recruitment and retention. It also encompasses continuous learning, remuneration and benefits, internal referral programs, and career development. This comprehensive talent strategy helps ensure that the Company has a strong and competitive talent pool that drives long-term business growth.	Nuvoton Taiwan	<ul style="list-style-type: none"> Strengthen employer brand Expand recruitment channels Promote career development 100% completion rate for assessment of position-specific professional competence Average employee training hours of 30h <p>Raise awareness of hazard prevention</p> <ul style="list-style-type: none"> Occupational safety education training attendance rate >95% 100% attendance rate for mandatory training courses <p>Hazard identification, risk assessment, and control</p> <ul style="list-style-type: none"> 40% decrease in (disabling occupational injuries) incident occurrence rate per thousand persons compared to the baseline average of 1.81 <1.1 0 case of occupational diseases <p>Employee health promotion</p> <ul style="list-style-type: none"> Employee cancer screening rate >50% 	<ul style="list-style-type: none"> 100% completion rate for assessment of position-specific professional competence Average employee training hours of 35 hrs <p>Raise awareness of hazard prevention</p> <ul style="list-style-type: none"> 98% attendance rate for occupational safety education training 100% attendance rate for mandatory training courses <p>Hazard identification, risk assessment, and control</p> <ul style="list-style-type: none"> 0.63 (disabling occupational injuries) incident occurrence rate per thousand persons 0 case of occupational diseases <p>Employee health promotion</p> <ul style="list-style-type: none"> Employee cancer screening rate in 2024: 56% 	<ul style="list-style-type: none"> Enhance professional competence Cultivate management skills Establish a talent echelon within the organization, achieving 100% building of the talent pool Average employee training hours of 36 hrs <p>Raise awareness of hazard prevention</p> <ul style="list-style-type: none"> Occupational safety education training attendance rate >95% <p>Hazard identification, risk assessment, and control</p> <ul style="list-style-type: none"> 50% decrease in incident occurrence rate per thousand persons compared to the baseline average of 1.81 0 case of occupational diseases <p>Employee health promotion</p> <ul style="list-style-type: none"> Employee cancer screening rate >55% 	<ul style="list-style-type: none"> Improve remuneration and benefits Strengthen retention mechanisms Talent echelon training completion Average employee training hours of 45 hrs <p>Raise awareness of hazard prevention</p> <ul style="list-style-type: none"> Occupational safety education training attendance rate >97% <p>Hazard identification, risk assessment, and control</p> <ul style="list-style-type: none"> 60% decrease in incident occurrence rate per thousand persons compared to the baseline average of 1.81 0 case of occupational diseases <p>Employee health promotion</p> <ul style="list-style-type: none"> Employee cancer screening rate >75% 	<ul style="list-style-type: none"> Organize 7 sessions of professional competence workshops, finalize 309 job descriptions for Nuvoton Taiwan, and ensure the establishment of 964 professional competencies Perform standardized procedure review for maintenance operations Implement effective health management Improve working environment to prevent fall incidents Expand drills and exercises 	     

⁷ Talent management includes "Remuneration and benefits and employee care," "Talent recruitment and cultivation," "Human rights and equality," "Labor relations" and "Occupational safety and health."

⬆ Exceeded ⬆ Achieved ⬆ Not Achieved

Material Topics ¹	Policies and Commitments	Scope	Strategy	Achievements in 2024	2025 Short-Term Goals	2030 Mid- & Long-Term Goals	Specific Actions	SDGs
Talent management ⁷	Nuvoton’s commitment to talent appreciation and cultivation goes beyond recruitment and retention. It also encompasses continuous learning, remuneration and benefits, internal referral programs, and career development. This comprehensive talent strategy helps ensure that the Company has a strong and competitive talent pool that drives long-term business growth.	Nuvoton Japan	<ul style="list-style-type: none">Strengthen employer brandExpand recruitment channelsPromote career developmentAverage employee training hours of 10h	<ul style="list-style-type: none">Average employee training hours of 11 hrs	<ul style="list-style-type: none">Enhance professional competenceCultivate management skillsEstablish a talent echelon within the organization, achieving 100% building of the talentAverage employee training hours of 12 hrs	<ul style="list-style-type: none">Improve remuneration and benefitsStrengthen retention mechanismsTalent echelon training completion rate of 80%Average employee training hours of 24 hrs	<ul style="list-style-type: none">Redesign personnel benefits systemHost family dayInnovate and improve reward system	     
			<p>Raise awareness of hazard prevention</p> <ul style="list-style-type: none">Occupational safety and health general training attendance rate > 90%100% attendance rate for new employee safety and health training <p>Hazard identification, risk assessment, and control</p> <ul style="list-style-type: none">Risk register improvement rate of 100%0 case of occupational diseases <p>Employee health promotion</p> <ul style="list-style-type: none">Increase the target value of appropriate lifestyle habits through the Life Clinic Plan to 3.46	<p>Raise awareness of hazard prevention</p> <ul style="list-style-type: none">100% attendance rate for occupational safety education training100% attendance rate for new employee safety and health training <p>Hazard identification, risk assessment, and control</p> <ul style="list-style-type: none">Risk improvement rate of 100%0 case of occupational diseases <p>Employee health promotion</p> <ul style="list-style-type: none">Target value of 3.463	<p>Raise awareness of hazard prevention</p> <ul style="list-style-type: none">Occupational safety and health general training attendance rate > 90%100% attendance rate for new employee safety and healthParticipation rate of supervisors and managers in Kiken Yochi (hazard prediction) Training (KYT)> 50% <p>Hazard identification, risk assessment, and control</p> <ul style="list-style-type: none">Risk register implementation rate of 100%0 case of occupational diseases <p>Employee health promotion</p> <ul style="list-style-type: none">Increase the target value of appropriate lifestyle habits through the Life Clinic Plan to 3.47	<p>Raise awareness of hazard prevention</p> <ul style="list-style-type: none">Occupational safety and health general training attendance rate > 90%100% attendance rate for new employee safety and health trainingParticipation rate of supervisors and managers in Kiken Yochi (hazard prediction) Training (KYT)> 50% <p>Hazard identification, risk assessment, and control</p> <ul style="list-style-type: none">Risk register implementation rate of 100%0 case of occupational diseases <p>Employee health promotion</p> <ul style="list-style-type: none">Increase the target value of appropriate lifestyle habits through the Life Clinic Plan to 3.47		

Material Topics and Impact on Nuvoton's Value Chain

Material Topics	Value Chain Impact Boundary ¹				
	Upstream	Nuvoton Operations		Downstream	
	Suppliers (Raw Materials/ Equipment)	Research, Development and Design	Wafer Foundry	Packaging/ Testing	Customer Usage
Integrity operation and corporate governance	●○	●○	●○	●○	●○
Productivity and business performance	●○	●○	●○	▲△	▲△
Regulatory compliance	▲△	▲△	▲△	▲△	▲△
Green products	▲△	●○	●○	▲△	▲△
Innovation in research and development	▲△	●○	●○	●○	●○
Risk management	▲△	▲△	▲△	▲△	▲△
Supply chain management	●○	●○	●○	●○	●○
Energy and greenhouse gas management	●○	▲△	●○	▲△	●○
Talent management	▲△	●○	●○	▲△	▲△

¹ "Significant" is defined as a direct impact on the Company, and "potential" is defined as an indirect impact through business relationships. Significant positive impact ●; Significant negative impact ○; Potential positive impact ▲; Potential negative impact △


Stakeholder Communication

Nuvoton follows the five assessment principles of the AA1000 Stakeholder Engagement Standard (AA1000 SES), including responsibility, influence, tension, diverse perspectives, and dependency. We identify 7 categories of key stakeholders, including employees, customers, suppliers/contractors, government agencies/associations, shareholders/investors, community groups and non-profit organizations, and the media. We have a dedicated investor relations unit to respond to investors' inquiries or letters periodically and establish diverse and transparent communication channels to effectively understand stakeholders' concerns regarding economic, environmental, and social (including human rights) topics and specific opinions, providing timely responses to stakeholders' suggestions. After communication and negotiation with stakeholders and relevant units, the responsible units track the significance of topics and regularly report to the Board of Directors.

The Company offers a comprehensive complaint mechanism for stakeholders. Relevant units collect and manage complaints, and corresponding management units track them. Major incidents are discussed at functional committees. For material topics on sustainability, the Sustainability Development Committee summarizes ESG performance indicators and major sustainability themes of the year, which are then included in the agenda of the Board of Directors for communication and feedback. The Sustainability Development Committee reports the results of ESG performance indicator implementation and annual major sustainability themes to the Board of Directors.






Stakeholder Categories	Significance for Nuvoton	Key Concerns	Communication Channels and Frequency	2024 Communication Achievements and Responses to Issues
 <p>Employees</p>	<p>Employees are vital assets to Nuvoton and are crucial to supporting the Company's competitiveness.</p>	<ul style="list-style-type: none"> Integrity operation and corporate governance Talent management Regulatory compliance Productivity and business performance 	<ul style="list-style-type: none"> Labor-management meetings (quarterly) Supervisor quarterly meetings (quarterly) Supervisor operational intelligence sharing sessions (quarterly) Employee welfare committee (quarterly) Employee suggestion box (irregular) Complaint mailbox and hotline (irregular) Internal website (irregular) Various organizational meetings (irregular) Training courses (irregular) New employee induction support and care (1st/30th/90th day after induction) Diversity and inclusion series activities (irregular) 	<p>Nuvoton Taiwan</p> <ul style="list-style-type: none"> Conducted 4 labor-management meetings Conducted 4 supervisor quarterly meetings Held 4 supervisor operational intelligence sharing sessions Organized 4 Town Hall Meetings Addressed 0 case of workplace misconduct and sexual harassment complaint Addressed 9 cases handled through employee assistance/internal communication channels Published 26 articles related to the corporate philosophy on the employee website homepage Issued TO ALL announcements on the internal website Established an internal platform for one-stop employee services (Nuvoton Universe) and HR service channel information New employee induction support and care (average satisfaction with induction experience: 88.3 (out of 100 points)) Held 2 diversity and inclusion series activities <p>Nuvoton Japan</p> <ul style="list-style-type: none"> Conducted 4 labor-management meetings Issued TO ALL announcements on internal website Handled three cases through the hotline
 <p>Customers</p>	<p>Customers are the main source of Nuvoton's revenue. Nuvoton is committed to providing the highest quality products and services.</p>	<ul style="list-style-type: none"> Integrity operation and corporate governance Energy and greenhouse gas management Green products Regulatory compliance Productivity and business performance Innovation in research and development Risk management Supply chain management 	<ul style="list-style-type: none"> Customer satisfaction surveys (annually) Customer surveys or on-site audits (irregular) Company website member area (irregular) Technical seminars (irregular) Telephone and email (irregular) 	<ul style="list-style-type: none"> Organized and attended a total of 63 online or offline high-value innovation product customer training seminars and communicated with potential customers, discussing market trends and product/technical support information, receiving favorable feedback from customers Ensured smooth communication channels, such as company website emails, chat windows, technical communities, offline telephones, and daily visits and utilized the D365 customer service system to optimize the immediacy of technical support knowledge base and responses Continuously updated online digital documents, audio, and technical support resources to assist customers in rapid product development

Stakeholder Categories	Significance for Nuvoton	Key Concerns	Communication Channels and Frequency	2024 Communication Achievements and Responses to Issues
 <p>Suppliers/Contractors</p>	<p>Suppliers provide the raw materials needed for the Company's operation and production. Nuvoton is committed to pursuing mutual growth with suppliers.</p>	<ul style="list-style-type: none"> Integrity operation and corporate governance Green products Regulatory compliance Innovation in research and development Supply chain management 	<p>Nuvoton Taiwan</p> <ul style="list-style-type: none"> Supplier ESG & RBA self-assessment (annually) Distribute SAQ questionnaire to evaluate the ESG performance of major suppliers <p>Nuvoton Japan</p> <ul style="list-style-type: none"> Supplier QCDS assessment (annually) Sustainability survey (biennial) Conflict minerals survey (annually) Business continuity survey (biennial) Stakeholder concern survey (annually) Quality audit (annually, based on selected standards) Environmental audit (annually, based on selected standards) 	<p>Nuvoton Taiwan</p> <ul style="list-style-type: none"> Completed annual evaluation of major suppliers 100% of suppliers signed the RBA Code of Conduct 100% of suppliers signed the "Non-Use of Conflict Minerals Declaration"¹ 100% of suppliers signed the "No Use of Hazardous Substances Declaration" 93% of major suppliers published ESG reports Major suppliers have conducted greenhouse gas emissions inventory (ISO 14064). Collected baseline and reduction targets for greenhouse gas emissions from major suppliers <p>Nuvoton Japan</p> <ul style="list-style-type: none"> 100% of major suppliers completed QCDS assessments 100% of major suppliers conducted sustainability surveys Completed investigations of suppliers to the refineries under review and respond to 100% of customer inquiry requirements Requested 100% of major suppliers to participate in the online survey 100% of major suppliers finished business continuity assessments 100% of suppliers completed quality audits 100% of suppliers completed environmental audits
 <p>Government Agencies/Associations</p>	<p>Nuvoton complies with local government regulations and actively cooperate with relevant policies to eliminate any form of illegal behavior.</p>	<ul style="list-style-type: none"> Integrity operation and corporate governance Talent management Energy and greenhouse gas management Regulatory compliance Risk management 	<p>Nuvoton Taiwan</p> <ul style="list-style-type: none"> Official documents (irregular) Regulatory briefing sessions (irregular) Communication through industrial associations and regulatory authorities in the science park (irregular) <p>Nuvoton Japan</p> <ul style="list-style-type: none"> Consultation with regulatory authorities on environmental law standards On-site inspection of waste disposal suppliers 	<p>Nuvoton Taiwan</p> <ul style="list-style-type: none"> Participated in 12 meetings of environmental protection and safety authorities² Received 18 official documents from the Science Park Association Participated in 4 joint defense organization meetings of Environmental Protection Bureau and Science and Technology Management Bureau <p>Nuvoton Japan</p> <ul style="list-style-type: none"> Complied with 11 environmental regulations including the Energy Conservation Law Conducted on-site audits for 30 waste transportation and management companies

¹ Nuvoton requires that suppliers involved in products containing minerals of concern to the Responsible Minerals Initiative (RMI) must sign the "Non-Use of Conflict Minerals Declaration."

² Taiwan Power Company's power-related meetings: 2 sessions; Hsinchu Science Park Administration meetings: 9 sessions; Park Association meetings: 1 session. Total: 12 sessions.

Stakeholder Categories	Significance for Nuvoton	Key Concerns	Communication Channels and Frequency	2024 Communication Achievements and Responses to Issues
 Shareholders/Investors	Corporate or individuals who have invested or are willing to invest in Nuvoton	<ul style="list-style-type: none">Green productsRegulatory complianceInnovation in research and developmentRisk managementProductivity and business performanceIntegrity operation and corporate governance	<ul style="list-style-type: none">Annual general meeting (AGM) (annually)Earnings conferences (quarterly)Annual financial report (annually)Company website (irregular)Stock market updates (regular/irregular)	<ul style="list-style-type: none">Held 4 quarterly online earnings conferences in 2024 with a cumulative attendance of over 400 peopleOrganized 1 shareholder meetingDisclosed the annual reports onceDisclosed the consolidated financial reports 4 timesReleased monthly revenue announcements 12 timesIrregularly discloses significant company informationRegularly disclosed company operational information in accordance with the law
 Community and Non-profit Organizations	Nuvoton seeks social harmony and progress, focusing on local community topics and building a better society.	<ul style="list-style-type: none">Integrity operation and corporate governanceTalent managementRegulatory compliance	<ul style="list-style-type: none">Company website (irregular)Email (irregular)Facebook fan page/Instagram (irregular)	<ul style="list-style-type: none">Conducted 2 community visitsOrganized 6 blood donation activitiesHeld 4 lectures by renowned individualsOrganized 2 second-hand book donation eventsConducted 4 campus forums
 Media	The media serves as a bridge between Nuvoton and its stakeholders, ensuring timely access to information released by Nuvoton, and assisting Nuvoton in disclosing positive sustainability information to stakeholders.	<ul style="list-style-type: none">Integrity operation and corporate governanceTalent managementInnovation in research and developmentProductivity and business performance	<ul style="list-style-type: none">Earnings conferences (quarterly)	<ul style="list-style-type: none">Held 4 earnings conferencesPublished 38 press releases

Chapter 2

Green Products



2.1 Innovation in Research and Development

- 2.1.1 Strategy for Innovation in Research and Development
- 2.1.2 Achievements of Innovation in Research and Development by the Business Groups

2.2 Green Manufacturing

2.3 Quality and Responsibility

- 2.3.1 Product Quality Management
- 2.3.2 Management of Hazardous Substances in Products

2.4 Intellectual Property Rights

2024 Performance Highlights



Promoted a new **endpoint AI** platform to accelerate the development of fully functional microcontroller AI products



The NuMicro® M2L31 of low-power, high-performance microcontrollers incorporates up to 11 additional power-saving modes in chip design, reducing full-speed operation power consumption by **40%** (from 110 μ A/MHz to 66 μ A/MHz) compared to the previous generation NuMicro® M253 series.



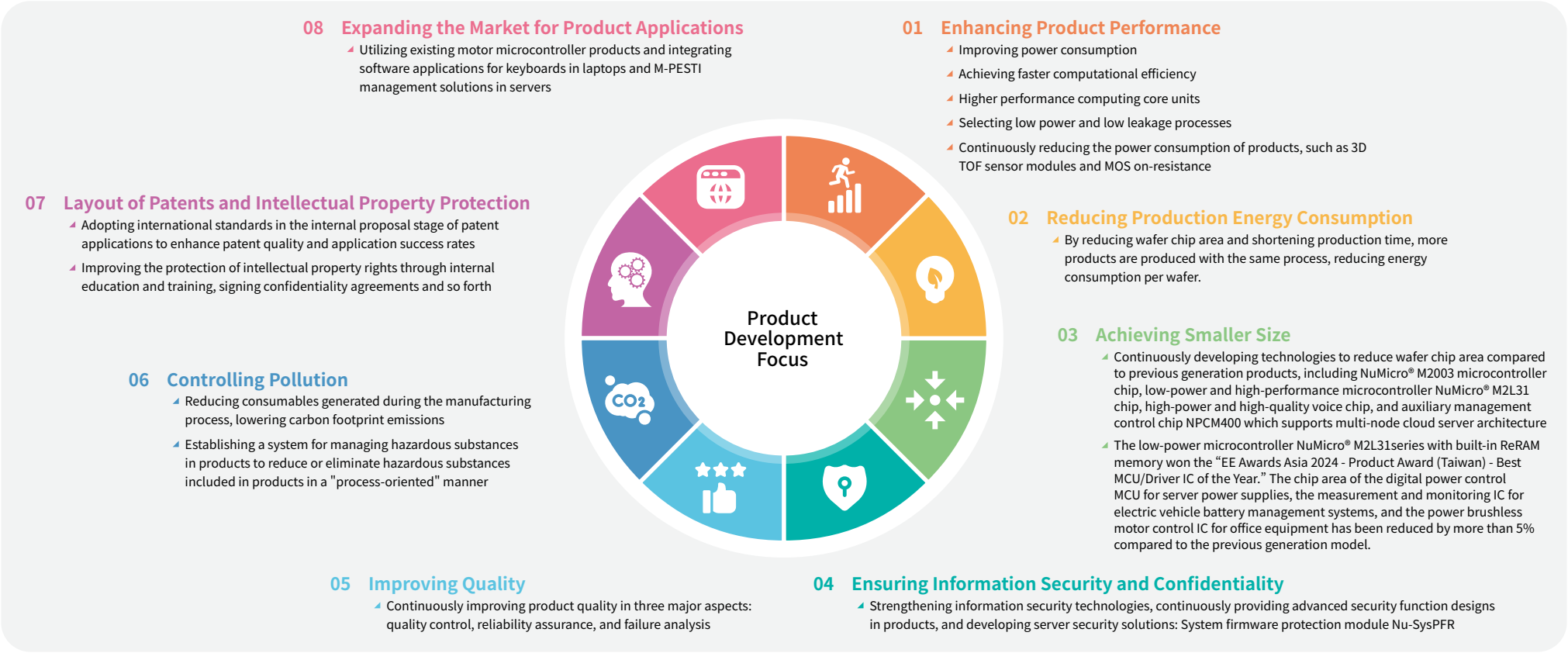
Completed the carbon footprint verification of wafer products at the wafer fab in accordance with **ISO 14067:2018** and underwent third-party verification



The cumulative number of patents granted to Nuvoton exceeded **5,100** worldwide.



Nuvoton sees “Innovation in Research and Development” as the driving force for the sustainable transformation of semiconductor IC design products, and is committed to developing the latest technologies in the industry, while continuously reducing the environmental impact throughout the process of design, production, packaging, and logistics. Safer green products based on new technologies and high computational efficiency are introduced to meet energy-saving and carbon reduction goals. In addition to environmental benefits, Nuvoton also pursues social contributions through product innovation, including medical equipment, IoT devices, and smart city solutions that bring added convenience to society. Nuvoton rigorously controls product quality through quality management systems and conducts systematic hazardous substance management.



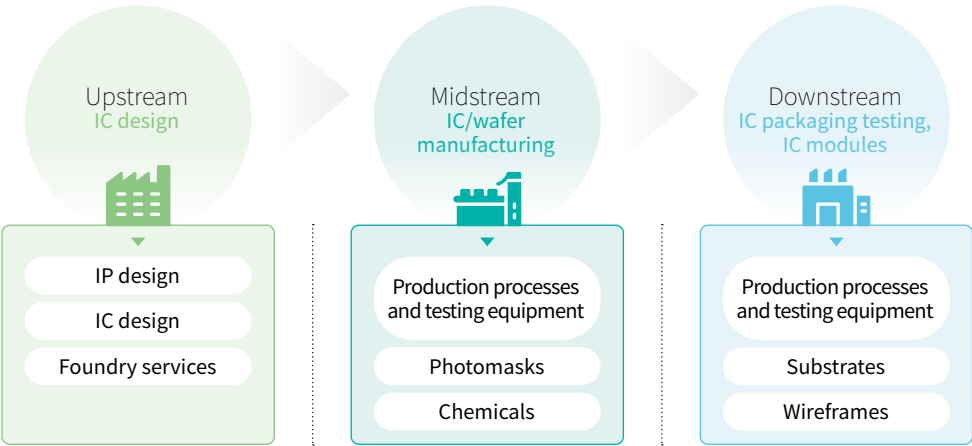
2.1 Innovation in Research and Development

The development of green semiconductor technology can have a positive impact on the future for humankind and our environment. Nuvoton envisions itself as the “Hidden Champion in Providing Sustainable Semiconductors to Enrich Human Life,” regards “Innovation in Research and Development” as the driving force for the sustainable transformation of semiconductor IC design products, and aspires for its products to continue expanding their footprint in overseas applications. At the same time, in response to new trends in the international market, Nuvoton is expanding resources to pursue product optimization in major areas of development, such as microcontrollers, cloud computing, and automotive industrial control networks. Products are designed and applied at terminals to achieve energy-saving and carbon reduction goals, and customers are continuously provided with high-quality products and new solutions, thus maintaining Nuvoton’s leading position in the IC design house market.

2.1.1 Strategy for Innovation in Research and Development

Semiconductor Industry Chain Positioning

Nuvoton is an IC design company positioned upstream in the semiconductor industry chain, facing



the front-line impact of changes in market demand. Our technical research and development require flexibility, advancement, and integration. From the perspective of the supply chain, Nuvoton’s products serve as the control and computing core of end products. Nuvoton provides downstream customers with microcontrollers, microprocessors, audio applications, cloud security, battery monitoring, image sensing, IoT, and other related application ICs and semiconductor components. Relevant products have secured a leading position in industrial, automotive, communication, consumer electronics and computer markets with deep expertise cultivated over many years. Additionally, Nuvoton is one of a few domestic IC design companies with wafer fabrication capabilities, owning a 6-inch wafer fab in Taiwan. It manufactures its own IC products, provides specialized wafer foundry services, and establishes long-term and stable cooperation models with upstream players (raw material and equipment suppliers).

Research and Innovation Management Strategy

Nuvoton has four main missions in technical innovation:

Becoming a Trusted Partner for Customers

Deeply understanding and cultivating relationships with customers, Nuvoton is committed to becoming a trusted partner by accurately designing and manufacturing solutions that meet customer needs.

Talent Cultivation

Empowering employees and fostering an environment of open learning, Nuvoton equips its staff with comprehensive skills and encourages agile responses to market changes and challenges.



Team Collaboration

Collaborating across borders and between teams both internally and externally, Nuvoton maintains its leading position and continuous development in multiple core technologies. Internally, teams collaborate across borders, learning from each other, leveraging experiences, exploring new opportunities, and creating new product directions together.

Digital Technology

Nuvoton keeps a close eye on market technology developments. Continuously integrating various digital technologies and tools, Nuvoton enhances operational efficiency and product design and manufacturing quality.

Based on the four innovation missions, Nuvoton has formulated management policies for its product development-related business groups to ensure consistency in product planning and design across different periods. It is committed to launching new technologies, high computational efficiency, and safer green products to meet energy-saving and carbon reduction goals.

Nuvoton Taiwan Business Group

Microcontroller Business Group

Research and development efforts are centered on MCU/MPU and audio products. MCU/MPU products prioritize user product safety and information security as the fundamental requirements. They incorporate energy-saving improvements and endpoint AI trends, exploring and defining key IPs or architectures in line with customer, market, and environmental trends for technical and product development.

Audio products are application-oriented, introducing technologies to save battery consumption, reduce power consumption, achieve lighter and thinner packaging, minimize peripheral component and board material consumption, and gradually invest in high-end AI intelligent interaction research to develop comprehensive management strategies.

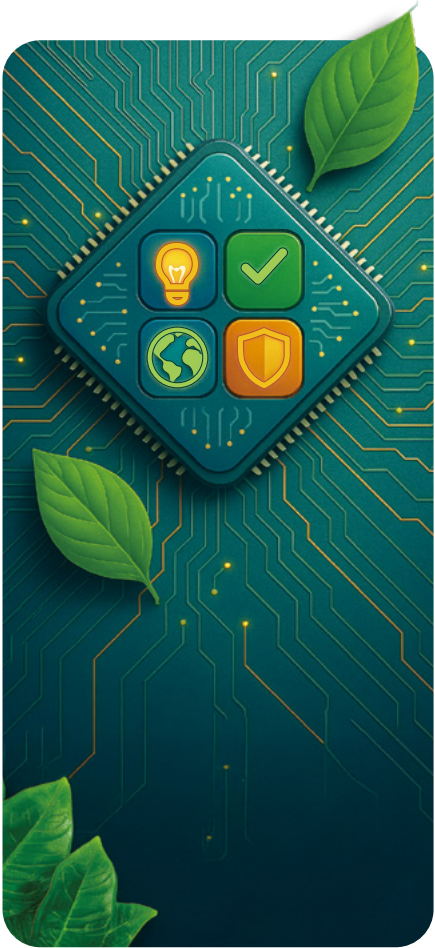
Manufacturing Business Group

In the global trend towards energy-saving and high-efficiency, the Manufacturing business group continues to cultivate high-voltage process platforms for various application areas, providing customers with green semiconductors. In the high-voltage integrated circuit (HVIC) process, industrial-grade reliability verification was completed in 2024, enabling customer products to have a longer lifespan and high-quality characteristics, jointly achieving the goals of a circular economy through green design. Additionally, in terms of production, resources will be invested in promoting smart manufacturing operations, executing innovative projects, monitoring carbon emissions automatically, improving operational efficiency, and reducing environmental consumption to achieve sustainable production goals.

Cloud Security Business Group

The application areas include data centers, cloud servers, edge computing, and end-device-related computing device ecosystems, covering applications, such as security architecture, interface processing, and energy management. In response to the trends of remote work and education, the business group is dedicated to developing low-power, high-computing performance products. Additionally, for rapidly evolving cloud data centers, a highly secure remote control module is being constructed to meet the security environment requirements for personal and corporate cloud data processing. The business group focuses on three main directions for developing green products:

- 1 Energy-saving and carbon reduction in manufacturing processes: reducing wafer chip area, shortening production time, and producing more products per unit wafer energy consumption in the same process
- 2 Energy-saving and carbon reduction in product functionality: products feature faster computational efficiency, integration of more interfaces, higher-performance computing core units, and system integration from multiple chips into one chip, overall improving customer system efficiency and reducing unit time energy consumption
- 3 Our products will be extended to various new applications, such as supporting new architectures for cloud servers, and USB Dock, ARM host SOC, ensuring system firmware information security, and remote management of devices in plants or open areas.



Nuvoton Japan Business Group

Components Business Group

Focus on the research and development of MOSFET (CSP) and RF-GaN products:

- ① MOSFET: Compact size and low on-resistance. In mobile applications, it enables extended battery life and quick charging, while achieving high power and precision in automotive and sensing applications.
- ② RF-GaN: With more than 30 years of high-frequency circuit knowledge, GaN process technology and integrated module design skills, we provide high efficiency and miniaturized modules for 5G base stations.

Image Sensing Business Group

Focus on the development of image sensors, ISPs, and DSPs:

- ① Image sensor: High resolution, high frame rate, compact size, and low power consumption. It can accurately detect and identify obstacles, and exhibits strong adaptability to environmental changes.
- ② ISP: AI-driven noise reduction and detection provide high dynamic range and high resolution.
- ③ DSP : Quick boot and high resolution offer a comfortable display environment inside the vehicle. High-performance simulation and digital audio processing (including noise suppression) deliver a comfortable acoustic space.

Battery and Analog Solutions Business Group

Focus on the R&D of battery monitoring ICs and fan motor driver IC products:

- ① Battery monitoring IC: BM-IC utilizing proprietary Silicon on Insulator (SOI) technology enhances system reliability and compliance with ASIL-D standards. Leveraging Nuvoton Japan's expertise in the automotive sector, we make contributions to industrial applications, such as energy storage systems and electric bicycles.
- ② Fan motor driver IC: With over 30 years of experience in the industrial equipment market and over 600 million units shipped, Nuvoton Japan's unique Real-time Automatic Phase Control (APC) technology provides long-lasting motor drivers for a wide range of applications.

IoT with Security Business Group

Focus on the development of microcontrollers and secure/edge AI products:

- ① Microcontrollers: Possess excellent system knowledge with over 40 years of business experience in consumer, automotive, and industrial markets.
- ② Secure/Edge AI: Ensure highly reliable communication with the latest security technology based on Common Criteria 6+, and offer ultra-low-power edge AI solutions suitable for wearable devices and personal healthcare applications.

Laser and GaN Technology Business Group

Focus on laser diode products and GaN foundry services:

- ① Laser diode: A leading supplier of laser diodes for optical disks with a cumulative shipment of over 3 billion units. High-power, reliable GaN/GaAs laser diodes for direct imaging and industrial processing
- ② GaN foundry services: Provide epitaxial and full-process manufacturing for GaN power devices

In 2024, Nuvoton continued to expand its R&D scale, with R&D expenses exceeding NT\$12.7 billion¹ in Taiwan and Japan for the year. With more than 2,589² R&D personnel from Taiwan and Japan participating in improving product design, technology development, testing, and production efficiency, Nuvoton demonstrates its determination and commitment to product and technological innovation.

1 In 2024, Nuvoton Taiwan and Nuvoton Japan invested NT\$8,775,360 and NT\$4,024,900 in R&D respectively.

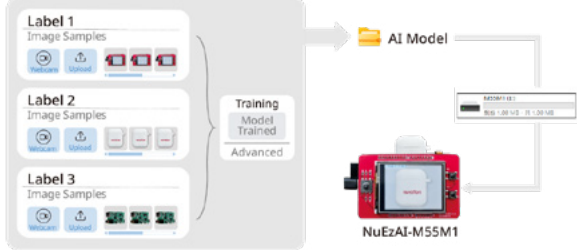
2 In 2024, Nuvoton Taiwan and Nuvoton Japan invested 1,378 and 1,211 people in R&D respectively.

2.1.2 Achievements of Innovation in Research and Development by the Business Groups

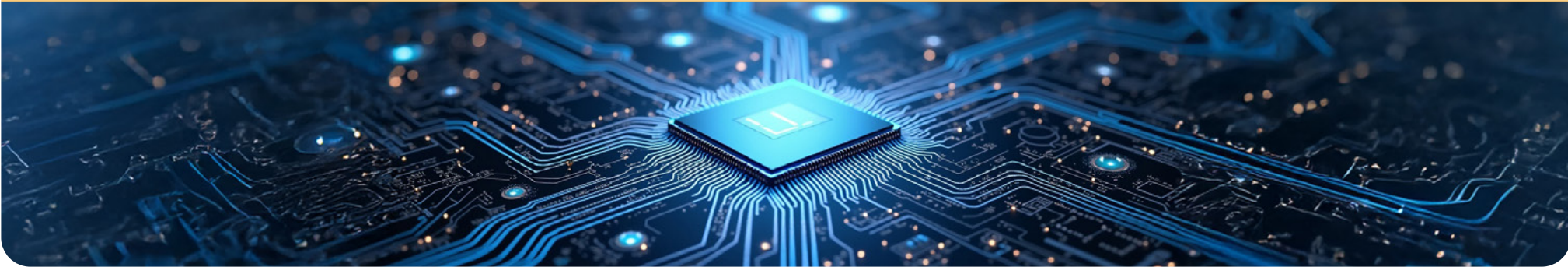
Nuvoton’s product-related business groups continue to develop key technologies and have released notable products in recent years, spanning multiple application areas, showcasing Nuvoton’s abundant capabilities in IC design. Since its acquisition in 2020, Nuvoton Japan has further supplemented research and development capabilities in the automotive electronics field, enhancing Nuvoton’s overall competitiveness in the international semiconductor and automotive markets.

Company	Business Group	Key Technology Projects	Highlighted Product	Areas of Application
Nuvoton Taiwan	Microcontroller Business Group	<ul style="list-style-type: none">Efficient Cortex-A35 dual-coreBuilt-in Stack DRAM to save costs and spaceProvide a variety of connection interfaces and robust, up-to-date security optionsSupport industrial-grade operating temperature range (Tj) from -40° C to 125° C	Industrial human machine interface NuMicro® MA35D0 series microprocessor	Industrial edge devices, industrial IoT, factory automation, industrial control, smart infrastructure, smart buildings, smart homes, smart gateways, new energy systems
		<ul style="list-style-type: none">High versatility product specifications balancing performance and system cost, combining high speed (144 MHz) with low power consumption (in the deep power-saving mode, the power consumption is only 0.35 mA)Provide high-speed data acquisition and processing, real-time control, and high-precision complex computing capabilities	NuMicro® M433 series microcontrollers	Industrial control, BMS, MiniLED control
		<ul style="list-style-type: none">Compact package size integrating rich analog peripheralsHigh analog functionality and precision digital control	NuMicro® M433 series microcontrollers	Industrial intellectualization/ automation, smart factory sensors, etc.
		<ul style="list-style-type: none">An ideal choice for upgrading from 8/16-bit cores to 32-bit coresEquipped with fast computing capabilities and built-in hardware dividerSupport 5V operating voltage and high anti-interference capability	NuMicro® M2003 series microcontrollers	Smart buildings, smart homes/ appliances, industrial control, battery management systems
		<ul style="list-style-type: none">Equipped with 64-512 Kbytes ReRAM (Resistive Random-Access Memory), accelerating write operations while offering lower energy consumption and enhanced durabilityUp to 11 power-saving modes, with outstanding low-power capabilities significantly extending battery life and reducing the need for frequent battery replacements (For more information, please refer to the Highlights Section II)	NuMicro® M2L31 series microcontrollers	Battery management, industrial automation, consumer interface devices



Company	Business Group	Key Technology Projects	Highlighted Product	Areas of Application
Nuvoton Taiwan	Microcontroller Business Group	<ul style="list-style-type: none">Paired with an online model training tool, developers without extensive programming knowledge or a deep understanding of complex algorithms can train an image recognition model in as little as three minutes, significantly simplifying the development process of endpoint AI. (For more information, please refer to the introduction in Highlights Section I)	<p>NuEzAI-M55M1 development boards</p> 	Smart home devices, smart cities, industrial automation, interactive toys, wearable devices, etc.
		<ul style="list-style-type: none">Industrial-grade high-power high-fidelity auxiliary solution with internal oscillator supporting 48 kHz frequencySimulated Class D PWM driver, capable of providing a maximum output power of 3 watts to drive 4-ohm speakers or buzzers	ISD3810 ChipCorder chip	Home appliances, medical, industrial control, charging stations, automotive and motorcycle instrumentation
		<ul style="list-style-type: none">Multifunctional high-compression voice control solutions, enhancing capacitive touch performance and meeting the requirements of various MCP low-pin-count packages	N589S080 voice control chip	Smart toy application market
		<ul style="list-style-type: none">Highly integrated and high-precision audio measurement controller to meet the needs of voice-assisted/medical portable electronics and high-precision measuring instruments	NSC128L42 audio controller	Electronic blood pressure monitor, precision electronic scale
	Manufacturing Business Group	<ul style="list-style-type: none">600V component technology has passed industrial-grade reliability verification	High-voltage integrated circuit (HVIC) process platform	Motor driver, power tools, electric bicycles, white household appliances, etc.
		<ul style="list-style-type: none">120V BCD technology	BCD (Bipolar CMOS DMOS) process platform	DC/DC transformers, driver chips, and automotive electronics, etc.
	Cloud Computing Business Group	<ul style="list-style-type: none">Support various new features of the Intel Birch Stream server platform, such as Platform Monitoring Technology and Flashless Boot	NPCM8xx	Cloud server
		<ul style="list-style-type: none">Support management functions in conjunction with BMC under a multi-node cloud server architecture	NPCM400	Cloud server
		<ul style="list-style-type: none">USB Dock controller firmware platform	NCT9650	USB Dock
		<ul style="list-style-type: none">Information security assurance for system firmware	eSIO product line: NCT6801, NCT6694	Various computers and embedded systems
		<ul style="list-style-type: none">Keyboard Controller	NCT9640Y	Laptop
		<ul style="list-style-type: none">M-PESTI peripheral management interface	TF5103Y	Server

Company	Business Group	Key Technology Projects	Highlighted Product	Areas of Application
Nuvoton Japan	Components Business Group	<ul style="list-style-type: none">Miniature low on-resistance technology12-Inch aafer fabrication technology	Cross-membrane metal-oxide semiconductor MOSFET/Dual N-channel 12V products: Lithium battery protection for wearable devices	Mobile devices
	Visual Sensing Business Group	<ul style="list-style-type: none">Sensor pixel design and distance calculation/ISP development technologyFour imaging signals and background light elimination functionFour memory units for pixelsBuilt-in distance calculation circuit in sensors	KW33000A1T, KW33000A1K, KW33000AR: 3D TOF sensors with built-in distance calculation circuit	Smart door locks for passenger detection and face recognition, XR headsets, luggage size measurement, truck loading volume rate measurement, autonomous mobile robots, etc.
	Battery and Analog Business Group	<ul style="list-style-type: none">Battery measurement IC design technologyAchieve voltage measurement accuracy of +/-2.9mV (the highest level in the industry)The main circuits such as the AD converter and multiplexer are equipped with self-diagnostic functions	KA49701A, KA49702A: 17-cell battery monitoring ICs suitable for industrial 48V applications	Servers/automotive, energy storage systems (ESS), servers, electric scooters, electric bicycles, robots, drones, etc.
		<ul style="list-style-type: none">Motor driver IC design technologyProprietary high-resolution real-time feedback control for motor driver current and phase	KA44370A: Industrial-grade 48V direct-drive motor driver IC	Servers, base stations, FA equipment, and other industrial devices
	IoT with Security Business Group	<ul style="list-style-type: none">Microcomputer development technology	Motor control MCU	Home appliance industry
	Laser and GaN Technology Business Group	<ul style="list-style-type: none">Laser component development technology	KLC420: Indigo laser component	Electronics and semiconductor package board manufacturing



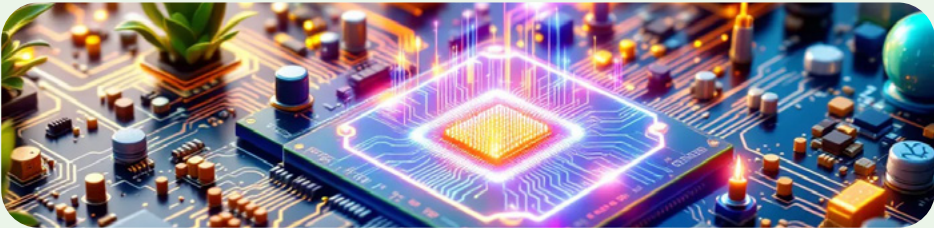
Highlights Section I

Micro Machine Learning MCU Products Assist AI Applications

As various industries increasingly recognize the potential of Artificial Intelligence (AI), endpoint AI, which involves deploying AI models directly on device endpoints, has emerged as a significant trend and is widely applied in smart home devices, smart cities, industrial automation, interactive toys, and wearable devices. These application scenarios require real-time data processing and analysis capabilities while maintaining low power consumption and high efficiency to ensure the stable operation of devices over extended periods. Therefore, a new generation of Microcontroller Units (MCUs), Neural Processing Units (NPU), and Microprocessor Units (MPUs) solutions emerge. Nuvoton’s microcontroller-based endpoint AI platform extends the AI ecosystem to the microcontroller domain. This platform is based on the microcontroller and microprocessor with Nuvoton’s new architecture, including NuMicro® MA35D1, NuMicro® M467 and NuMicro® M55M1 series with Arm® Ethos™-U55 NPU. It can be applied to applications, such as TinyML, industrial IoT, smart home, security access control, smart city, industrial automation, smart agriculture, interactive toys, fitness equipment, wearable devices and so forth, adding AI value to embedded system products.

As a leading microcontroller platform supplier, Nuvoton not only offers advanced hardware chips but also provides developers with comprehensive software development tools, significantly enhancing development efficiency.

Nuvoton will continue to invest in endpoint AI platform microcontrollers, integrating AI features to add value to products. Despite the growing market interest in endpoint AI, developers face numerous



The NuEdgeWise IDE offers a powerful yet simple machine learning development environment.

NuEdgeWise is an easy-to-use graphical Python machine learning development tool. It provides a rich set of machine learning example programs that cover processes, such as data collection, volume label, model training, and verification, making the machine learning development process easier.

NuEzAI-M55M1 development boards

The online model training tool allows developers without extensive programming knowledge or a deep understanding of complex algorithms to train an image recognition model in as little as three minutes by simply using devices such as cameras to capture data in real-time. After training, the online model training tool can output the model in the int8 format of tflite, which can be directly deployed on the NuEzAI-M55M1 development board. It is suitable as an evaluation tool kit for early-stage development, allowing developers to get started quickly and shortening the product time-to-market.

design challenges and pain points in implementing endpoint AI functionalities. Traditional workflows typically require extensive programming knowledge, a deep understanding of machine learning frameworks, and the ability to optimize models. These challenges may slow down innovation and make it difficult for developers to rapidly prototype and deploy AI solutions. In light of this, Nuvoton will continue to invest in providing developers with comprehensive software development tools and machine learning sample programs that cover processes, such as data collection, volume label, model training, and verification, making the machine learning development process easier. Nuvoton Taiwan collaborates with top electrical engineering departments at universities in Taiwan on artificial intelligence development projects, supplies development boards for academic teaching and offers technical advice on products used in the curriculum, contributing to the cultivation of national endpoint AI technical talents. Nuvoton Japan also engages in joint research and technical cooperation with top universities in Japan, including the University of Tokyo, on innovative AI semiconductors and system development.

Highlights Section II Products in the Industrial Control IoT Field Pursue High Energy Efficiency and Low Energy Consumption Design

With the rise of AI and high-performance computing (HPC), large-scale data processing places higher demands on transmission speed and efficiency. However, traditional electrical signal transmission faces two major challenges: insufficient transmission speed and heat dissipation. Silicon photonics technology utilizes optical signals for data transmission, significantly enhancing transmission speed and reducing energy consumption. This not only solves the problems of transmission delay and energy waste, but also provides a more reliable data transmission foundation for AI servers and high-performance computing. The NuMicro® series MCU of Nuvoton provides core support for optical communication modules:

M029G/ M030G/M031G Microcontrollers	Suitable for low-power and compact applications, they efficiently support the operational requirements of silicon photonics modules, ensuring stable data transmission with low latency.
M471/M485 Microcontrollers	Featuring high-speed computing capabilities and low-energy design, they are specifically designed for high-bandwidth transmission applications in silicon photonics, meeting the demands of rapid data exchange in AI and IoT devices.

The MA35D1 High-Performance Edge Industrial IoT Series, MA35D0 Industrial Edge Device Series, and MA35H0 Industrial Human-Machine Interface (HMI) Series can meet the high computational power required for industrial IoT edge applications. They enable edge-side data processing and real-time responses, while also providing advanced security mechanisms to prevent malware attacks, confidential data theft, and tampering. Additionally, stacked DRAM within the package can significantly reduce PCB layers, device size, BOM costs, and electromagnetic interference (EMI), helping to achieve the target application’s cost, performance, size, and energy efficiency

requirements. They are highly suitable for applications requiring control and networking, such as smart infrastructure, manufacturing automation, and new energy systems.

In an era where performance is critical, Nuvoton’s new M2L31 microcontroller series are designed to meet the growing demand for high-performance embedded computing. As Nuvoton’s representative product designed for high performance and low power consumption, M2L31 series rely on Arm® Cortex®-M23 core, advanced ReRAM technology and excellent low power consumption characteristics, suitable for a variety of high-performance automation and energy-saving application scenarios:

Industrial automation equipment	The M2L31 can be used in the sensing and control devices of smart factories, such as robot controllers, sensors, and motor drivers. Thanks to its high efficiency and low-power design, these devices can operate longer and more stably, effectively reducing energy consumption.
Battery management and new energy systems	A supply voltage range as low as 1.6V makes them particularly suitable for battery-powered devices with limited energy, such as monitoring devices for solar power generation systems and intelligent energy storage systems.
Consumer interface devices and IoT devices	The three low-power modes of M2L31 (normal power-down, standby power-down, and deep power-down) are suitable for IoT terminal devices, such as smart home appliances, smart building sensors, and edge computing devices, achieving higher energy efficiency and longer device lifespan.

Highlights Section III Nuvoton Japan Strengthens Competitive Advantage in the Automotive Market

Electric vehicles represent the long-term trend of green energy technology, and Nuvoton Japan has shown remarkable performance in automotive-related components, such as MCU, BMIC, and HMI-IC. For example, in BMIC products, Nuvoton Japan began mass production of its third-generation Battery Management chip (BMIC) in 2023 to meet the growing demand of the electric vehicle market in China. In the future, Nuvoton Japan will release the fourth-generation electric vehicle BMIC, capable of high-precision measurement of the voltage, temperature, of battery cells and current of batteries.

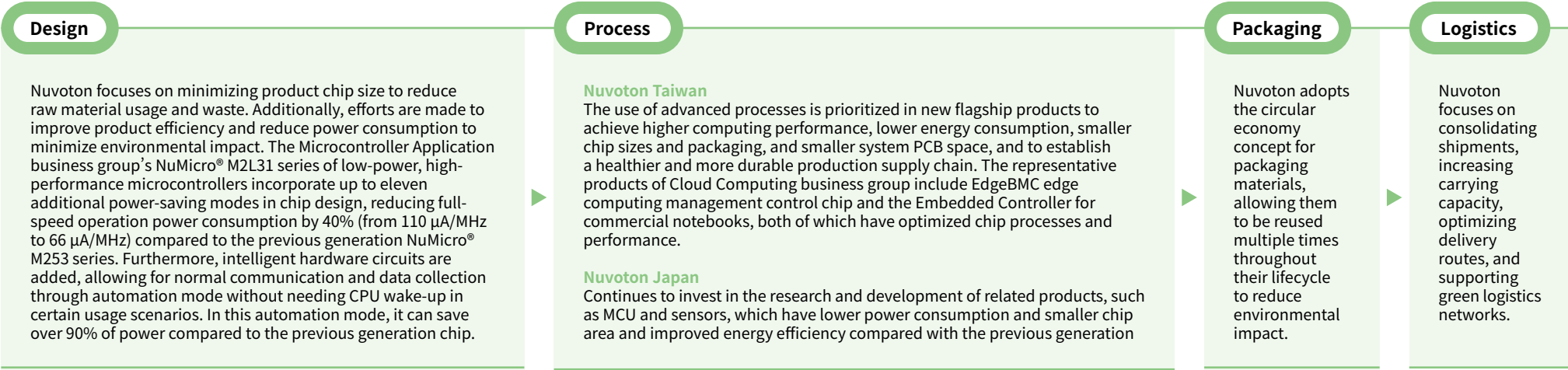
Highlighted Product	Application
TMOS	▶ 40V/60V Compact MOSFET for automotive switches
Human machine interface chip (HMI-IC)	▶ With ISP/DSP as the key technology, Nuvoton Japan's HMI-IC has been adopted by a major Chinese automotive manufacturer as a component of the Head Up Display (HUD). ▶ A Japanese automotive manufacturer launched a model equipped with digital rearview mirrors using Nuvoton Japan's HMI-IC.
Battery management chip (BMIC)	▶ The third-generation electric vehicle BMIC is in mass production. ▶ The fourth-generation electric vehicle BMIC will be released, capable of high-precision measurement of the voltage, temperature of battery cells, and current of batteries. ▶ A 17-cell battery monitoring IC suitable for industrial 48V applications, with voltage measurement accuracy of +/-2.9mV (KA49701A, KA49702A)
Motor driver	▶ Industrial-grade 48V direct-drive motor dedicated chip (KA44370A)
Image sensor	▶ 3D TOF sensor with built-in depth calculation circuit (KW33000A1T, KW33000A1K, KW33000AR)
Microcontroller Unit (MCU)	▶ Newly developed Arm® Cortex®-M4F core motor control MCU has commenced mass production.
Laser	▶ Indigo semiconductor laser with an optical output power of 1.7W and a wavelength of 420nm (KLC420)



2.2 Green Manufacturing

Developing Green Products

Nuvoton’s main products are IC chips, which are widely and diversely used in terminal markets and devices. Therefore, Nuvoton is committed to considering the environment during the chip design phase. Through technological innovation, Nuvoton continues to develop chips with lower power consumption and smaller sizes. Nuvoton’s principles and actions for producing green products are evident in the four aspects of design, process, packaging, and logistics:







In addition to outsourced production, Nuvoton also has in-house process platforms. Green products manufactured outside the wafer fab via wafer foundry service gradually account for a significant proportion. Key results in the development of three key components focusing on “high efficiency, high integration, and low power consumption” were achieved in the power management chip process. Products produced by Nuvoton Taiwan are based on 6-inch wafers. In 2024, Nuvoton Taiwan completed a carbon footprint verification of 6-inch wafers according to ISO 14067:2018 and underwent third-party verification to grasp the key stages of the product’s life cycle with carbon reduction potential.

Nuvoton Japan plans to obtain ISO 14067 certification for products with high customer demand by 2025. To understand resource consumption during the product lifecycle, Nuvoton develops products with green design to reduce resource consumption during production. The Company has identified product emissions during the raw material and production stages, promoted the elimination of prohibited substances in products from the development stage, and developed low-energy products to reduce emissions during the usage stage.

These innovative products of Nuvoton not only benefit the environment but also have a positive impact on society. The low-power characteristic of the new generation of microcontrollers means more compact, lightweight products, which are helpful in various applications, such as medical devices, IoT devices, and smart city solutions. The introduction of these products not only improves efficiency and performance but also brings more convenience and accessibility to society.

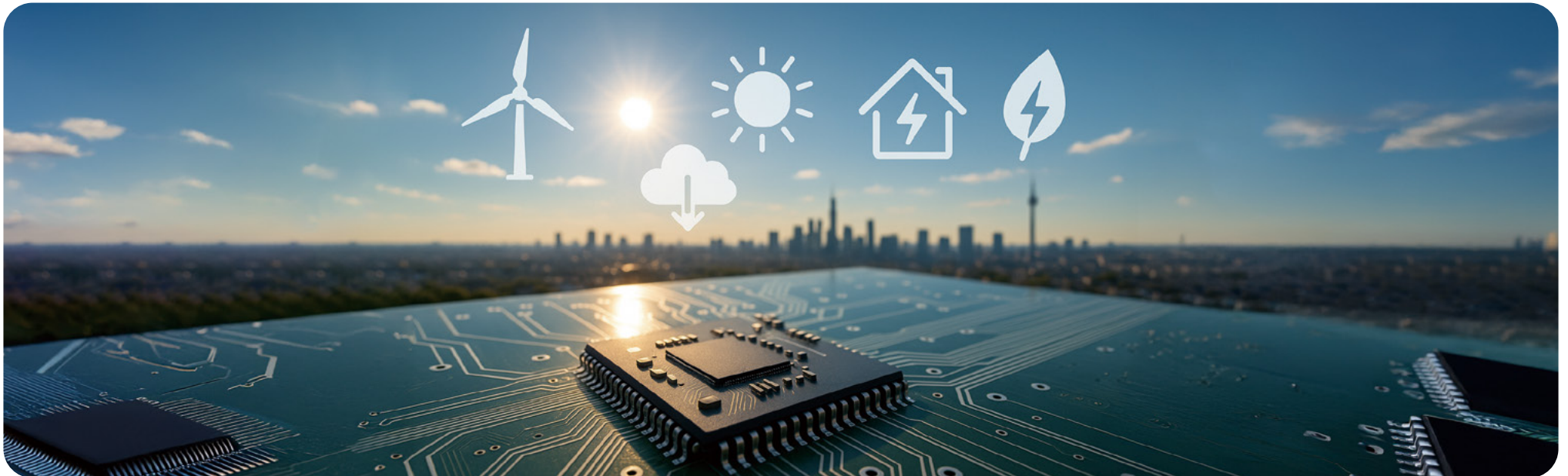
Nuvoton’s products were widely used in various sustainability-related fields, such as automotive (for example, autonomous driving systems/power management systems, charging piles/batteries), consumer electronics (home appliances/smart homes), industrial control (environmental monitoring sensors/energy management and distribution), and security management, contributing to higher energy efficiency in related products/services on the market.

Nuvoton’s Green Products

Benefit Type	Product Name	Benefit Description
 Reduced power consumption	N589S080 smart toy chip	Power consumption is reduced by 25% compared to previous models.
	NuMicro® M2L31 chips for low-power, high-performance microcontroller	Multiple power-saving modes are available to reduce operational and standby power consumption. Compared to the previous-generation NuMicro® M253 series, full-speed operation power consumption is reduced by 40% (from 110 μA/MHz to 66 μA/MHz).
	HMI, Motor Driver IC, MCU, BMIC, Image Sensor	Power consumption is reduced by more than 15% compared to previous models.
 Saved chip size	NuMicro® M2L31 chips for low-power, high-performance microcontroller	The chip size is reduced by 30% compared to previous-generation NuMicro® M253.
	ISD3810 ChipCorder	The chip size is reduced by 49% compared to the previous generations.
	NSC128L42 audio vontroller	A singe chip is adopted to replace the functionality of the previous-generation chip and customer products.
	N589S080 smart toy chip	The chip size is reduced by 10% (core component size is reduced by 38%) compared to the previous generations.
	EdgeBMC (Edge computing management control chip)	This is a new product for 2023, featuring a more efficient chip packaging. The chip packaging area is reduced by 67% compared to the previous generations. This reduction decreases the demand for silicon raw material during chip manufacturing, and also saves circuit board material consumption and space in end-system applications.
	A digital power control microcontroller used for server power supplies	
	Measurement and monitoring IC for electric vehicle battery management systems	The chip area is reduced by more than 5% compared to the previous generations.
 Lower on-resistance	Power brushless motor control IC for office automation equipment	
	TMOS	The on-resistance is reduced by 15%, lowering energy consumption and thereby improving product efficiency compared to previous models.
	Motor driver IC brushless DC Motor	Brushless DC motors are highly efficient, contributing to energy savings. Due to the high degree of design freedom, brushless DC motors are used in various markets and come with multiple voltage, speed, and load options.
 Increased operational efficiency	8bit KM101 MCU	It is the microcontroller series developed by Nuvoton Japan and equipped with an 8-bit original CPU. With low power consumption, high code efficiency, and high performance, it achieves capabilities comparable to 16-bit microcontrollers from other companies.
	Arm® Cortex®-M7 MCU	KM1M7 series is a 32-bit flash memory microcontroller equipped with Arm® Cortex®-M7. It features high processing capability and low power consumption, with high-performance PWM, high-speed, high-precision AD converter, and feedback control auxiliary functions suitable for motor control/digital power control applications, making it an ideal choice for power electronic control.
	LD	Luminous efficiency is increased by over 10% compared to previous models.
	NCT9640Y	
	TF5103Y	Existing products are introduced into different market sectors to explore their inherent value and save IC development costs.





The world is currently pursuing sustainability, with smart buildings and IoT technologies being crucial for enhancing energy management efficiency. To minimize the waste and excessive consumption of energy and electricity, it is key for these smart devices to reduce power usage as much as possible. In response to ever-changing market demands, the Microcontroller business group's long-term goal is to design the next generation of ultra-low-power microcontrollers, striving to enable MCUs to operate longer in power-saving sleep modes and further reduce average energy consumption requirements to a maximum degree. Moreover, with the increasing demand for edge computing, MCUs need to feature high-speed interfaces, high bandwidth for external memory, and low power consumption. Designing microcontrollers specifically for edge AI tasks is becoming increasingly important to cater to a wider range of application scenarios, such as image processing, voice recognition, and gesture control. In the future, microcontrollers will evolve towards multi-core architectures with high memory bandwidth support or the ability to accommodate large-capacity

external memory, achieving low latency and highly scalable designs to meet future demands. In our planning for the future, Nuvoton will continue to develop products that can reduce energy consumption and minimize size to save resources. We will also strive to improve processes, reducing environmental impact while meeting market demands and operational strategies. Nuvoton will integrate our expertise in servers and personal computers, actively cultivating the three layers of cloud, edge, and endpoint. We will develop high-efficiency, low-power computer chip products that meet the latest security standards, offer zero-compromise security, and incorporate artificial intelligence based on enterprise and market needs. At the same time, we will continue to improve our TMOS, HMI, motor drivers, microcontrollers, and LD products. In the short term, Nuvoton will launch new products with market-leading pointer security features, high performance and low power consumption, as well as the ability to be applied across multiple domains.



Digital Transformation and Smart Manufacturing

Nuvoton is fully promoting digital transformation, integrating digital technology into all areas of the enterprise to create organizational competitive advantages. Both Nuvoton Taiwan and Nuvoton Japan have established digital transformation committees, with members from production, sales, human resources, R&D, finance, and other units. We strive to introduce digital tools to assist in optimizing internal management and improving corporate productivity. In 2024, Nuvoton Taiwan conducted 12 digital transformation sharing sessions, with monthly case studies presented. Each monthly meeting features two units sharing their digital transformation cases or plans. The short-term goal is to raise awareness of the importance of digital transformation across the Company. Through monthly case sharing, Nuvoton employees replicate successful experiences, digitizing and automating more work scenarios and workflows, thereby optimizing work methods and improving work efficiency. During the digitalization and automation process, employees are empowered, enhanced in digital literacy and fostered greater enthusiasm and passion for both work and personal growth. Members of the 12 sub-committees participated in the transformation sharing sessions every month in 2024, with a total of 29 case studies shared and over 1,000 employees and supervisors in attendance. Nuvoton Japan also held 12 digital transformation sharing sessions in 2024, training 200 employees in the basics of digital tools. This initiative aims to help employees utilize digital tools to improve work efficiency, with an estimated annual productivity increase of 8,000 hours. In addition to organizational upgrades through the use of digital tools, Nuvoton also places a heavy importance on smart manufacturing at the factory level. We began promoting smart manufacturing in 2010, referring to concepts such as Industry 4.0 and Industry 3.5 during this period to plan a smart manufacturing blueprint for our 6-inch wafer foundry. The factory launched its smart manufacturing infrastructure in 2010, and from 2012 to 2019, it started the digitization of production information. In 2020, a smart manufacturing management team was established, incorporating relevant projects into KPIs for regular progress reviews to ensure the implementation of relevant strategies. Currently, the smart manufacturing initiative has progressed to the software upgrade stage, where we continue to introduce software development and AI technologies to reduce repetitive operations and labor-intensive tasks. The team is continuously driving various innovative projects with the hope of creating an energy-efficient, environmentally friendly, and highly productive smart manufacturing factory, fulfilling the Company's vision of being a "Hidden Champion in Providing Sustainable Semiconductors to Enrich Human Life."

2024 Smart Manufacturing and Industrial AI Project Achievements		
Project Name	Project Description	Project Effectiveness
 Automatic machine function update management system	Developed a system to automate the "changeover operation of the gatekeeping mechanism during machine function conversion" which was previously performed manually	Reduce personnel burden and allow engineers to focus on high-value analysis and optimization work, thereby enhancing job satisfaction
 Cryo-Pump health monitoring and early warning system	Established a system to monitor the Cryo-Pump temperature in real-time to ensure it meets control standards and accurately predict its service life	Lifetime prediction ensures that equipment is maintained or replaced at the optimal time, avoiding premature or delayed replacement, reducing material waste, and minimizing the environmental burden of part replacement.
 Optimized defect image recognition technology	Utilized AI for the analysis and optimization of machine image capture settings, enhancing the system's accuracy in identifying defect images through image quality optimization	After AI optimizes image quality, defect detection accuracy is improved, thereby reducing the entry of defective products into the market, enhancing customer satisfaction, and strengthening brand reputation.
 Ice machine AI management system	Established an AI system to execute real-time optimization strategies for the operation of ice machines and auxiliary equipment	Energy savings of 200K kWh/year

2.3 Quality and Responsibility

2.3.1 Prodcut Quality Management

Nuvoton continuously provides excellent products and services to solidify its position as an indispensable top-tier partner for customers. The Company adheres to the IATF 16949 international standard to guide the establishment and improvement of the quality management system, ensuring that all processes and their interactions enhance overall quality performance. By implementing stringent quality control measures, ensuring product reliability, and conducting thorough failure analyses, Nuvoton consistently enhances its products to meet and even surpass customer expectations.

Quality Management System Process



In the chip packaging sector, Nuvoton diligently oversees every phase of the manufacturing process, gathers feedback from multiple sources, and promptly and precisely detects issues for analysis and evaluation. Corrective actions are being taken to ensure the development of a high-quality and dependable product line. In terms of packaging technology and supplier management, Nuvoton closely collaborates with packaging companies to ensure that the provided packaging solutions maximize component performance while meeting specific customer requirements. Additionally, Nuvoton rigorously screens outsourcing companies to ensure the quality of products they delivered.

To ensure that employees possess the necessary knowledge, skills, competencies, and attitudes to perform their duties, Nuvoton continuously provides internal and external quality management education and training each year. This includes induction training for new employees, on-the-job education, and professional staff training, all aimed at comprehensively enhancing employees' quality awareness and their application of quality control methods. The training sessions cover topics, such as Quality Control Circles activities, the Seven Quality Control Tools, statistical analysis methods, FMEA and so forth. The following is the implementation of quality management education and training courses in 2024:

Course Name	Course Hours	Cumulative Attendees
QC080000 hazardous substance process management system	1	1,927
Basic FMEA concepts	2	1,359
Basic statistics	6	423
SPC	3	302
QIT	3	573
QC 7 tools	3	287
General education on ISO 9001 / ISO 14001 / ISO 45001 / ISO 50001 (Nuvoton Japan)	1	1,681

Nuvoton develops and enacts robust management systems grounded in international standards like ISO 9001, IATF 16949 and IECQ QC080000. These systems focus on product quality and green products. By doing so, Nuvoton improves operational efficiency and effectiveness, elevates the quality of products and services, and upholds sustainable responsibilities. Nuvoton Japan has established an ISO 9001 quality management system and obtained ISO 9001:2015 quality certification. Additionally, it has also acquired ISO 21434.

2.3.2 Management of Hazardous Substances in Products

Nuvoton implements a rigorous five-step process to manage hazardous substances in all its products. This stringent self-imposed regulatory framework has been recognized by customers. Since 2009, Nuvoton has been a SONY-certified Green Partner and has regularly passed SONY’s Green Partner audits. Based on the management system framework of ISO 9001 and IATF 16949, Nuvoton Taiwan obtained the IECQ QC 080000 certification for hazardous substance process management from the International Electrotechnical Commission (IEC) in 2008. This “process-oriented” approach minimizes or eliminates hazardous substances in products, enabling systematic hazardous substance management that meets RoHS, REACH, WEEE, and other customer-specific requirements, effectively operating a robust hazardous substance management system. No incident related to hazardous substance noncompliance occurred in Nuvoton Taiwan in 2024. In response to significant regulatory updates in 2024, it is confirmed that all Nuvoton Taiwan products meet the requirements of the REACH Regulation SVHC, which includes the addition of 7 new controlled substances, bringing the total to 242 items. Additionally, it also follows the EU POPs (Regulation (EU) 2019/1021) requirements after the inclusion of 3 new controlled substances in 2024, and the SONY SS-00259 ver.22 requirements. Nuvoton Taiwan discloses the packaging plant for the source of product components/ingredients, and Nuvoton Japan has marked compliance with RoHS and lead-free requirements.

2024 Nuvoton Achieved Targets

✓ Non-compliance issues in hazardous substance management: 0 case

✓ 100% completion of basic hazardous substance training

✓ 100% of new R&D products and materials comply with hazardous substance management requirements

✓ 100% completion of annual wafer & IC hazardous substance content testing, in compliance with RoHS and halogen-free requirements

Step 1

Declare a Hazardous Substance-Free Policy

Nuvoton is committed to designing, procuring, manufacturing, and selling hazardous substance-free products to comply with international regulations, meet customer demands, and fulfill its environmental responsibility.

Step 2

Establish a Hazardous Substance Control List

Based on international environmental regulations and major customer requirements, Nuvoton maintains a controlled substance list that includes prohibited, restricted, and declarable substances. This list is reviewed and updated annually based on current conditions.

Step 3

New Material Evaluation System

Nuvoton has established a new material evaluation process to ensure that newly developed products and materials comply with Nuvoton’s hazardous substance management procedures and environmental, health, and safety requirements.

Step 4

Green Procurement and Supplier Management

Raw material suppliers and subcontractors are required to sign a “Non-Use of Hazardous Substances Certificate” and provide third-party testing reports annually to ensure their products meet international standards.

Step 5

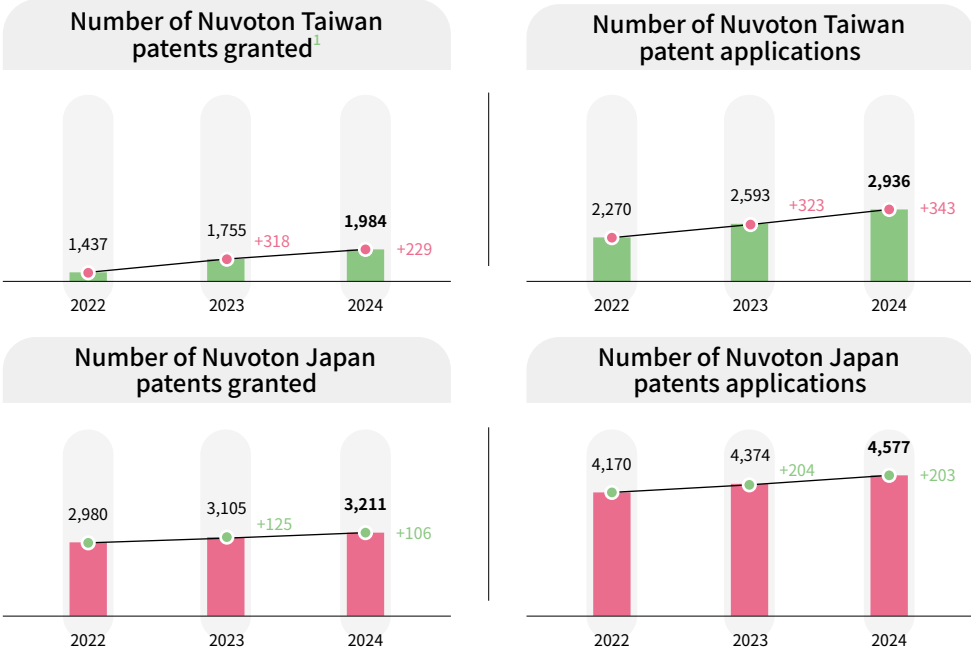
Hazardous Substance Testing

Nuvoton conducts annual testing of harmful substance content in wafers and ICs. The testing items in Taiwan include RoHS and halogens. Third-party accredited organizations measure and monitor banned substances that have environmental impacts and are harmful in raw materials and products to comply with RoHS and halogen-free requirements.

2.4 Intellectual Property Rights

Nuvoton recognizes research and development (R&D) and innovation as essential competitive strengths for sustainable business operations and survival. Intellectual property (IP) protection is a crucial factor in safeguarding brand value. To reinforce its industry leadership and protect its hard-earned advanced technological achievements, the Company has formulated an IP strategy that aligns with its business objectives and R&D resources. This strategy establishes an operational model for protecting the Company’s R&D and technological innovations, thereby enhancing its competitive edge and solidifying the foundation for its development. The Company’s patent management strategy primarily encompasses patent portfolio deployment strategies, mechanisms for identifying and cultivating key patents, and expanding patent application portfolios. Through the implementation of application and review mechanisms, incentive systems, education and promotion, and talent training at the execution level, the Company protects its R&D outcomes and technological leadership, continuously accumulating IP strength. Nuvoton has established an IP department and a patent review committee to strengthen its IP management strategy work, including patent evaluation and review, awards and incentives for innovative results, creativity-stimulating activities, and strategic utilization of IP.

To improve the number of patent applications and approvals, the Company adopts international standards in the internal proposal stage of patent applications, following patent laws, examination guidelines, and commercial potential of various countries to review each proposal. This approach aims to improve the quality of patents and the probability of successful approval, ensuring that the Company’s R&D innovations can receive adequate legal protection. In addition, the Company sets patent application targets at the beginning of each year and designs a variety of innovation incentive mechanisms to continuously encourage employees to submit invention applications. It also establishes a systematic IP management system, utilizes digital transformation tools to establish a patent knowledge platform to share patent information, and holds multiple creative brainstorming activities to assist colleagues in generating patent proposals more efficiently. In 2024, Nuvoton Taiwan filed 343 patent applications, with 229 patents granted, ranking 17th among domestic legal entities for patent applications in Taiwan. Nuvoton Japan filed 203 patent applications, and the total number of patents filed globally exceeded 4,500. The number of patents granted globally reached 106, with a cumulative total of over 3,200 granted patents worldwide.



1 The data information here has been recompiled and the adjustment instructions compared with the previous year’s report are detailed in [Appendix 3](#).

In addition to continuously pursuing diverse patent layouts, Nuvoton also pays close attention to the protection and management of trade secrets for comprehensive IP protection. The Company’s new employee training programs include a theme to remind new employees to safeguard the Company’s trade secrets. In 2024, the new employee training course, “Legal Issues that Knowledge Workers Should Pay Attention” was conducted, with a total of 194 trainees. In addition, Nuvoton signs confidentiality agreements with long-term cooperating suppliers or customers at the initial stage of contact to protect Nuvoton’s confidential information and trade secrets. In 2024, Nuvoton did not encounter any disputes involving breach of confidentiality agreements or infringement of trade secrets.

Chapter 3
Excellence in Governance

3.1 Corporate Governance

- 3.1.1 Board of Directors
- 3.1.2 Functional Committees

3.2 Productivity and Business Performance

- 3.2.1 Economic Performance
- 3.2.2 Tax Management

3.3 Sustainable Business Management

- 3.3.1 Regulatory Compliance
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3.4 Sustainable Supply Chain

- 3.4.1 Composition and Overview of Supply Chain
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2024 Performance Highlights



Selected into constituent Stocks of the “**Taiwan High Compensation 100 Index**” by the Taiwan Stock Exchange



Nuvoton **100%** adopted smelters certified by the RMI (Responsible Mica Initiative) organization.



Nuvoton Taiwan conducted the “Promotion of Corporate Integrity and Sustainable Development Guidelines” course, while Nuvoton Japan held 6 courses related to legal compliance, with a completion rate of **100%** for both.



According to the customer satisfaction survey results, the overall average satisfaction score reached **8.7/10** for Nuvoton Taiwan and **7.87/10** for Nuvoton Japan.



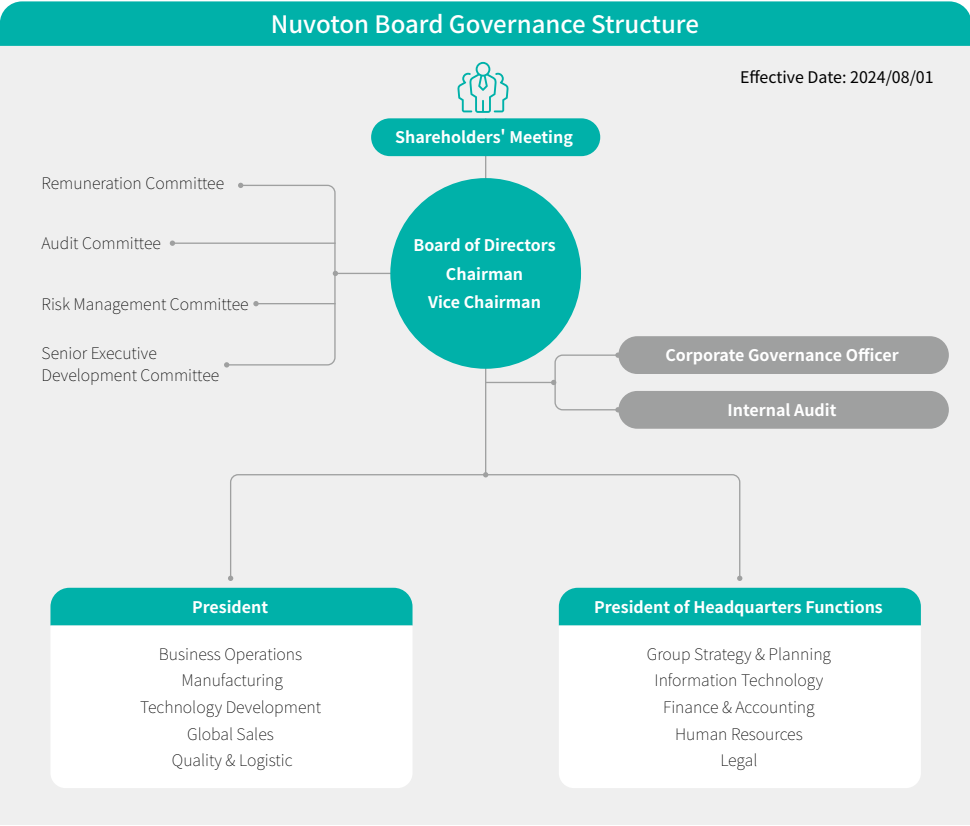
3.1 3.1 Corporate Governance

3.1.1 Board of Directors

Operation of the Board of Directors

The Board of Directors (hereinafter referred to as “the Board”) serves as the Company’s highest governing body. The Board carries out its relevant duties in accordance with government regulations and the Company’s charter, including appointing and supervising the Company’s management, overseeing operational performance, and preventing conflicts of interest, while exercising authority over shareholder meeting resolutions. Both directors and independent directors share responsibility for corporate governance and operational strategies, guided by principles that not only safeguard the interests of shareholders but also take into the account the interests of stakeholders, such as employees, customers, suppliers, government, and non-governmental organizations. The organizational structure beneath the Board primarily consists of four major business groups and five major centers, with various committees established to handle different functions and promote business initiatives. The chairman of the Board of Directors of the Company also serves as the CEO, leading the management team to effectively implement the Board’s decisions, enhance operational efficiency, and ensure the Company’s sustainable operation. The President, on the other hand, is held by a professional manager who is not a member of the Board of Directors. To maintain the objectivity of decision-making and strengthen supervision, we have increased the number of independent directors from the statutory 3 to 4 in accordance with Article 23 of the “Corporate Governance Best Practice Principles.” For the avoidance and mitigation of relevant conflicts of interest, please refer to the [Nuvoton 2024 Annual Report page 24](#) for more details.

Nuvoton is currently led by Ms. Hsiu-Fen Lai, Vice President of the Company’s Finance Center, as the Corporate Governance Director. With over 27 years of financial professional experience and qualifications meeting legal requirements, she assists the Board of Directors and individual directors in fulfilling their duties. This includes arranging Board meeting schedules and agendas, planning director training, providing information during and outside of Board meetings, and regularly informing directors of relevant information. The Corporate Governance Director ensures the proper functioning of the Board of Directors and governance-related matters.



To communicate significant events to the Board of Directors, not only are regular quarterly meetings held, but also ad hoc meetings are arranged. To better formulate goals and strategies, the following measures are taken:

Quarterly Strategy Workshops



Through these workshops, the operational and financial status is reported by the management team. If any significant discrepancies arise, the Board of Directors actively encourages managers to analyze and review them, facilitating timely adjustments to operational plans and annual budgets. This helps strengthen interaction and communication between the management team and the Board of Directors, while also enhancing transparency of company operational information. When necessary, authorization is delegated to relevant units for handling or reporting significant economic, environmental, and human (including human rights) sustainability issues to the Chairman or the Board of Directors. In 2024, four strategy workshops were conducted.

The Sustainability Development Committee Reporting to the Board of Directors



The Sustainability Development Committee coordinates sustainability direction and establishes short-, medium-, and long-term goals and management policies through five task forces (Corporate Governance, Human Rights and Social Inclusion, Sustainable Supply Chain, Environmental Sustainability and Green Products) for various aspects such as economy, environment and human rights and in the forms of performance goals and specific projects. Moreover, quarterly meetings are held to oversee cross-departmental communication, resource integration, coordination, and check the progress and achievement rate of each task force's activities. Quarterly reports are submitted to the Board of Directors on ESG performance results and future work plans. This helps the Board of Directors gain comprehensive insights into the Company's sustainability performance and challenges, thereby improving governance transparency and sustainability. In 2024, the Sustainability Development Committee reported to the Board of Directors 4 times.

The Risk Management Committee Reporting on Identified Risks



The Risk Management Committee meets at least twice a year, as needed, to discuss technical risks in the market and other risk issues that the Company needs to address, and reports to the Board of Directors to ensure effective management and response. In 2024, two meetings were held in total.

Diverse Composition of the Board of Directors

Based on the Articles of Incorporation, the selection of directors adopts a candidate nomination system and adheres to the “Corporate Governance Best Practices” emphasizing diversity among Board members. The Board of Directors selects the overall board members in accordance with the Company’s diversity policy, succession planning and Board performance evaluation results, to ensure that the elected directors are conducive to the Company’s operational decision-making and medium to long-term strategic planning. Director candidates are selected based on principles of diversity, sustainability, organizational impact, and ability to execute duties. The most recent election was held on June 2, 2022, resulting in the selection of the seventh term (until 2025) of the Board of Directors. Through the participation of female and independent directors, and the recruitment of elites from different generations and professional fields, the Company has fulfilled the Board’s diversity policy and sustainable operation goals. For detailed information on the selection process and methods, please refer to the official regulations on the [website](#).

The seventh term Board of Directors consists of eleven directors, including four independent directors, accounting for 36%, and one female director, accounting for 9%. In terms of age distribution, directors aged 50 and above account for 91%, while those aged below 50 account for 9%. Directors who do not hold positions as company executives or employees occupy more than two-thirds of the director seats. Though there are two individuals who are spouses or relatives within the second degree of kinship, this does not exceed half of the Board of Directors seats, complying with the provisions of Article 26-3 of the Securities and Exchange Act. All members of the Board of Directors possess extensive industry management experience, with a wide age range, diverse knowledge, and professional backgrounds covering different fields, possessing the necessary capabilities to fulfill director duties, supervise, and provide constructive opinions. Winbond Electronics Corporation and Chin Xin Investment Corp. are the main shareholders of the Company. Amongst them, Winbond Electronics Corporation is the parent company of Nuvoton and the largest shareholder holding more than half of the Company’s shares, as well as serves as director of the Company to date.

Member diversity of the seventh term Board of Directors

Job Title	Name / Legal Representative of the Corporation	Gender	Current Position	Core Diversity Elements					Actual Attendance Rate (%) ¹
				Business Management	Leadership Decision Making	Industry Knowledge	Financial Accounting	Information	
Chairman	Legal Representative of Winbond Electronics Corporation: Yuan-Mao Su (Risk) ²	Male	CEO of Nuvoton Technology Corporation	●	●	●	●	●	86% (6/1)
Vice Chairman	Karen K Chiao	Female	Director and President of Callisto Holding Limited	●	●	●	●		100% (7/0)
Director	Yu-Cheng Chiao	Male	Chairman and CEO of Winbond Electronics Corporation	●	●	●	●	●	100% (7/0)
Director	Legal Representative of Chin Xin Investment Corp.: Rehn-Lieh Lin	Male	Vice President of Winbond Electronics Corporation		●	●		●	100% (7/0)
Director	Chi-Lin Wea	Male	Chairman of IBF Financial Holdings Co., Ltd.	●	●	●	●	●	100% (7/0)
Director	Yu-Chun Hong	Male	Vice President of Winbond Electronics Corporation	●	●	●	●	●	71% (5/2)
Director	Liang-Gee Chen (Risk)	Male	Director of Himax Technologies, Inc. and Independent Director of Everlight Electronics Co., Ltd.		●	●		●	86% (6/1)
Independent Director	Pao-Sheng Wei (Audit, Risk, Remuneration)	Male	Chairman of Shin Kong Life Insurance Co., Ltd.	●	●	●	●		100% (7/0)
Independent Director	Shu-Chyuan Tu (Audit, Risk, Compensation)	Male	Chairman of BestCom Infotech Corp. and Director of Synnex Technology International Corp.	●	●	●		●	86% (6/1)
Independent Director	Shan-Ko Hsu (Audit, Risk, Remuneration)	Male	Chairman of Unus Tech Co., Ltd. and Yi Zhong Technology Co., Ltd., and Independent Director of Winbond Electronics Corporation	●	●	●	●		86% (6/1)
Independent Director	Kuang-Chung Chen (Audit, Risk Management, Remuneration)	Male	Independent Director of Diodes Incorporated	●	●	●	●	●	100% (7/0)

¹ The actual attendance rate is the number of attendances of the director/the total number (7) of Board meetings held this year.

² The labels “(Risk)”, “(Audit)” and “(Remuneration)” respectively represent that the director simultaneously serves as a member of the Risk Management Committee, Audit Committee, or Remuneration Committee.

For more information on the background and details of the board members, please refer to the [Nuvoton 2024 Annual Report](#).

Board of Directors Remuneration and Performance Evaluation

The Remuneration Committee is responsible for establishing and reviewing the performance evaluation and remuneration policies, systems, standards, structures, and individual remuneration of directors and managers. It sets forth the “Measures for the Compensation and Performance Evaluation of Directors/Managers” to ensure that overall remuneration is competitive and enhances business performance to achieve maximum long-term benefits. For director remuneration, please refer to the [Nuvoton 2024 Annual Report page 18](#).

The remuneration of the Company’s managers is handled in accordance with the Articles of Incorporation and the “Measures for the Compensation and Performance Evaluation of Directors/Managers,” which covers salary, bonuses, and employee compensation systems and standards. In addition to considering role responsibilities, contributions to the Company’s operations, and benchmarking against industry standards, operational performance, profitability, management effectiveness, and the practice of core corporate values and sustainable development goals (including environmental, social, and corporate governance aspects) are also taken into account as reference indicators for manager performance evaluations and remuneration allocation.

Upon confirming the overall reasonableness of compensation via individual reviews and assessments by the Remuneration Committee, the established remuneration distribution is submitted to the Board of Directors for resolution. This includes monthly salary disbursements, performance bonuses based on operational performance, and employee remuneration based on annual profit conditions. There are no provisions regarding manager “signing bonuses or recruitment incentives and clawback mechanisms.” For senior executives’ retirement benefits, the “Regulations on Manager Retirement” are established to ensure retirement security for senior executives.

To implement corporate governance and enhance the functionality of the Board of Directors, Nuvoton has established the “Measures for the Compensation and Performance Evaluation of Directors” to strengthen performance evaluations, while conducting annual performance evaluations of the Board of Directors based on five aspects: the degree of participation in company operations, improvement in Board decision-making quality, composition and structure of the Board of Directors, selection process for directors and continuous education, and internal controls. The results of the evaluation are summarized by the Board of Directors’ deliberative unit, reported to the Remuneration Committee and the Board of Directors, and used to formulate the plan to improve board performance for next year. This continuous

enhancement aims to improve the Company’s governance and increase long-term shareholder value. The Board of Directors and functional committees’ performance evaluations for 2024 have been completed, and the overall results indicate that “the Board of Directors and its functional committees operate well.” Additionally, Nuvoton stipulates that the Board of Directors’ performance evaluation must be conducted by an external independent organization at least every three years. This includes on-site interviews with the chairman, president, conveners of functional committees, Corporate Governance Director, and internal audit executives, with the evaluation results reported to the Board of Directors. In 2023, the Company commissioned an external organization, Taiwan Corporate Governance Association, to conduct a performance evaluation of the Board of Directors.



Board of Directors Professional Development

To assist directors in enhancing their various functions, Nuvoton arranges annual continuing training programs on economic, environmental, and social topics related to operations. Additionally, the Company periodically sends out information on economic, environmental, and social topics related to the Board of Directors, providing ongoing learning opportunities. In 2024, training hours for courses related to environmental sustainability (carbon rights, climate change and sustainable finance) totaled 22.5 hours, those for courses related to corporate governance (corporate governance and risk management) amounted to 31.5 hours, and those for courses related to economic issues (regional economy, global political and economic situation) were 21 hours. The total annual training hours for directors by the end of 2024 were 96 hours, with an average of 9 hours per director.

3.1.2 Functional Committees

To strengthen the supervisory function, enhance management capabilities, and improve the corporate governance structure, Nuvoton has established the four committees of Remuneration, Audit, Risk Management and Senior Executive Development under the Board of Directors, based on their respective powers and functions. and Risk Management under the Board of Directors, based on their respective powers and functions. The functional committees are composed of or involve independent directors, ensuring that the decisions and recommendations of the committees are objective and impartial. This effectively implements an independent oversight and balance mechanism, ensuring that all board resolutions and actions are properly executed. All proposals from the committees are reported to and discussed by the Board of Directors. In cases where there is a conflict of interest involving directors or their representing entities, they must abstain from the discussion. Some proposals are also reported to and discussed at the shareholders’ meeting, in line with the best interests of stakeholders.

In 2024, Nuvoton Taiwan and its parent company Winbond Electronics Corporation jointly established a Senior Executive Development Committee, with the committee chair elected by the directors. Currently, Chung-Ming Kuan, an independent director of Winbond Electronics Corporation, serves as the committee chair. The committee members are divided into Mentors and Mentees. The mentors are board members of Winbond and Nuvoton, while the mentees are senior executives of Winbond Electronics Corporation and Nuvoton. The list of mentees is reviewed and adjusted annually by the Board of Directors. Through the two core components—mentees’ workshops and the guidance and communication mechanisms between mentors and mentees—we aim to expand the mentees’ knowledge beyond their specific industry and



broaden their international perspectives. Additionally, directors can leverage this opportunity to gain a deeper understanding of the Company’s internal operations. In 2024, a total of 4 workshop courses were held, covering topics such as the international economic environment, technology and business innovation, and leadership and management.

Responsibilities and Composition of Functional Committees

Remuneration Committee



Members and Attendance: The Remuneration Committee is composed of 4 independent directors. In 2024, a total of 3 meetings were convened with a 92% attendance rate.



Responsibilities: The committee is responsible for formulating and regularly reviewing the annual and long-term performance goals and remuneration policies, systems, standards, and structures for directors and executives. It also periodically evaluates the achievement of performance goals for directors and executives, and determines the content and amount of their individual compensation.

Audit Committee



Members and Attendance: The Audit Committee consists of 4 independent directors. During the annual shareholders’ meeting on June 2, 2022, Nuvoton elected its seventh Board of Directors and the third Audit Committee assumed office on the same day. In 2024, the Audit Committee held 6 meetings, with a 92% attendance rate.



Responsibilities: The primary function of the Audit Committee is to assist the Board of Directors in overseeing the quality and integrity of the Company’s accounting, auditing, financial reporting processes, and financial controls. For external investors, it represents the Company’s supervisory function and independence, effectively safeguarding investor interests.

Risk Management Committee



Members and Attendance: On August 2, 2022, Nuvoton’s Board of Directors approved the establishment of the Risk Management Committee. The committee comprises several directors appointed by the chairman, as well as four independent directors who account for a majority. The members collectively nominate one person to serve as the convener and meeting chair, representing the committee externally. The Risk Management Committee is mandated to convene meetings at least twice a year, with the flexibility to adjust as needed. In 2024, a total of 2 meetings were convened, with a 100% attendance rate (including proxy attendance).



Responsibilities: The committee is responsible for overseeing the overall risk management of the Company. It formulates risk management policies, frameworks, and establishes qualitative and quantitative management standards. Adjustments are made based on the Company’s actual development needs or changes in the external environment.

3.2 Productivity and Business Performance

3.2.1 Economic Performance

Financial Performance

2024 Consolidated Financial Performance			
Unit: NT\$ Million			
Item	Fiscal Year 2022	Fiscal Year 2023	Fiscal Year 2024
Operating revenue	41,872	35,348	31,923
Non-operating income	629	1,036	387
Direct economic value generated	42,501	36,384	32,310
Operating costs	24,378	21,005	19,827
Employee salaries and benefits (Personnel expenses)	9,110	8,336	7,868
Payments to shareholders	2,133	2,982	1,304
Payments to the government	716	728	212
Community investment	1	3	2
Direct economic value distributed	36,338	33,055	29,212
Retained economic value ¹	6,163	3,329	3,098
Consolidated pre-tax net profit	5,107	2,726	400
Consolidated post-tax surplus	4,221	2,420	220
Earnings per share (EPS)	10.06	5.77	0.52

1 The data information here has been recompiled and the adjustment instructions compared with the previous year's report are detailed in [Appendix 3](#).

In 2024, Nuvoton was impacted by market conditions and geopolitical uncertainties, leading to a decrease in total revenue of 10% compared to 2023. The consolidated total revenue for 2024 amounted to NT\$31,923 million. After-tax net profit was NT\$220 million, representing a decrease of 91% compared to the previous year. Earnings per share for 2024 were NT\$0.52 with a cash dividend of NT\$0.4 per share (dividend payout ratio of 76%). The total consolidated income tax expense was NT\$180 million, accounting for 1% of revenue, showing a year-on-year decrease of 41%. The total income tax paid by the group was NT\$212 million, reflecting a 71% decrease compared to the previous year.

Nuvoton's business spans four major areas: automotive and industrial control, communications, consumer electronics, and computers, and it continues to expand its product applications. The primary focus of the 2024 market is the swift advancement of artificial intelligence (AI) and green energy. The extensive application of AI technology is propelling digital transformation across numerous industries. Concurrently, the global consensus on energy transition is becoming increasingly widespread, creating more opportunities for the growth of the green energy sector. Despite the automotive industry experiencing relative weakness this year due to inventory adjustments, the long-term outlook for the automotive-related semiconductor market remains promising, fueled by the ongoing drive towards automotive electrification. Facing future market trends, in addition to consolidating its existing strengths and continuing to promote next-generation automotive-related semiconductor application products, Nuvoton is also actively investing in the development of MCU applications for AI-related scenarios. Additionally, it is enhancing its focus on green energy solutions, injecting new momentum into the Company's long-term development.

In terms of business development, we have plans to expand our sales territories by establishing new business offices worldwide, deepening strategic cooperation with customers, and actively exploring global markets. Among these, strengthening partnerships with key customers is crucial for Nuvoton's sustained growth. As a result, we engage in dialogue with customers across various levels and provide long-term value.

In product development, in addition to continuous innovation and reinforcement of existing product lines, we are also promoting a series of solutions related to endpoint/edge artificial intelligence, electric vehicles, smart manufacturing, and green new energy in line with the global trend of sustainable development. This not only optimizes the Company's product portfolio but also demonstrates our strength in innovation and technology development.

In manufacturing, we closely monitor inventory across the foundry system and channels and adjust the scheduled tape-out and production targets accordingly to avoid losing sensitivity to changes in end-demand.

Sales Distribution and Product Revenue Share in 2024

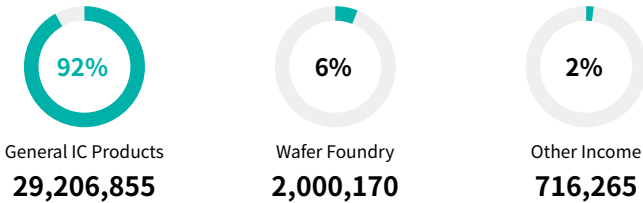
Unit: Sales (NT\$ 1,000)

Global Sales Distribution



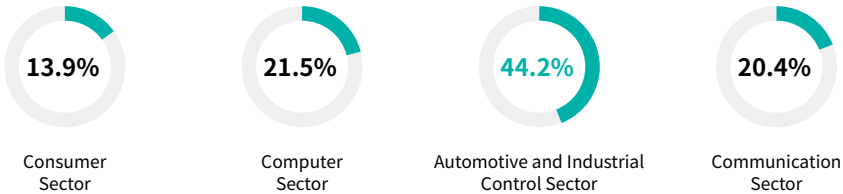
Product Revenue Share by Type

% / Sales (Unit: NT\$ 1,000)



Revenue Share by Application Area

Revenue Share by Application Area



3.2.2 Tax Management

Nuvoton’s subsidiaries are located worldwide, with business operations spanning various regions, and the Company is committed to complying with the tax regulations and standards of the countries where its subsidiaries are based. To promote tax transparency within the group and align with global anti-tax avoidance trends, the Company actively updates its tax knowledge and has engaged external professional tax consultants for expert advice to ensure accurate operations in compliance with tax regulations and filing obligations. The Audit Committee regularly oversees the implementation of internal control processes related to accounting, finance, tax, financial reporting, and subsidiary management, ensuring that all control measures are effectively executed. The Accounting Department is responsible for coordinating daily tax operations and management, and when necessary, seeks advice from accounting firms or tax professionals to ensure compliance with the tax laws of Nuvoton and its subsidiaries’ respective countries, while fulfilling tax obligations in a timely manner to ensure the reasonable and accurate disclosure of tax information. Additionally, employees responsible for tax matters regularly attend tax-related courses and policy briefings to continuously enhance their professional knowledge and practical experience, further strengthening tax risk management, ensuring compliance, and minimizing potential risks. In the event of tax litigation or unethical/illegal activities, these will be publicly disclosed in the financial or sustainability reports. As of 2024, no such incidents have occurred.



Nuvoton’s Tax Policy is Guided by Six Principles

1

Comply with local tax laws, honestly declare and pay taxes within prescribed deadlines, and fulfill the social responsibility of taxpayers

2

Evaluate the impact of changes in local and international tax regulations comprehensively and make prompt decisions to respond accordingly

3

Disclose tax information regularly in financial and annual reports to ensure transparency of information

4

Conduct transactions between related enterprises based on regular transaction principles and comply with the international transfer pricing standards published by the OECD

5

Establish a relationship of mutual trust and honest communication with tax authorities

6

Consider the tax implications in all major transactions and decisions of the Company

3.3

Sustainable Business Management

3.3.1 Regulatory Compliance

Nuvoton's customer base spans the globe, and in our commitment to upholding operational integrity and complying with laws and regulations, we vigilantly monitor both domestic and international policies that could impact the Company's operations and finances and consistently advocate for core business values of integrity operation. Nuvoton prioritizes adherence to relevant laws and regulations concerning labor, ethics, environmental protection, health, and corporate governance. A dedicated unit conducts quarterly assessments to ensure the applicability and compliance of newly enacted or revised regulations. These findings are reported at meetings of the Sustainability Development Committee, and pertinent information is updated on the Company's internal corporate social responsibility webpage for employee reference. In addition to continually tracking and updating all policies and regulations that could affect our operations, we internally underscore the significance of corporate governance and ethical conduct among our employees from time to time every year.

2024 Regulatory Compliance Achievements

Regular regulatory inspections:

To ensure our internal regulations align with the latest laws and regulations, quarterly regulatory compliance checks are carried out by the Sustainability Development Committee in accordance with the new Responsible Business Alliance (RBA) Code of Conduct. Additionally, we report the inspection results at the ESG Sustainability Development Committee meeting every six months. The results from these checks demonstrate our ongoing compliance with applicable laws, with notable changes identified in 2024. Furthermore, the audit unit conducts audits on compliance with laws and regulations as outlined in the annual plan, and issues reports. In 2024, no significant deficiencies were found.

In 2024, Nuvoton held a total of 14 legal compliance education and training courses, with a completion rate of 100%:

- Nuvoton Taiwan organized eight courses focused on regulatory compliance ("Promotion of Corporate Integrity and Sustainable Development Guidelines," "Personal Data Protection Act Guidelines," "Workplace Unlawful Infringement and Prevention - All Employees," "Workplace Unlawful Infringement and Prevention - Supervisors," "CP Annual Training," "Reward and Penalty Handling Regulations," "Hazardous Substance Management," and "Common Criteria").
- Nuvoton Japan held six compliance-related training sessions, covering topics such as the Anti-Monopoly Law, the Subcontracting Law, Preventing Unauthorized Use and Trade Compliance.

No violations or penalties related to environmental and economic regulations occurred:

In 2024, Nuvoton was not involved in fraud, insider trading, corruption, anti-competitive behavior, antitrust and monopoly behavior, market manipulation, or other integrity operation-related incidents. There were no violations or penalties related to environmental and economic regulations, nor were there any major violations of regulations. A major regulatory violation by the Company is characterized by a fine exceeding NT\$1 million.

No violations of social-related regulations and penalties occurred:

Through the improvement measures in the previous year, including strengthening compliance management, employee training and internal auditing, Nuvoton had no related social violations, legal proceedings or penalties in 2024. In 2023, Nuvoton Taiwan was fined NT\$20,000 for violating Article 21 of the Gender Equality in Employment Act. The Company has clearly defined the relevant operating standards for leave, suspension and reinstatement in accordance with government regulations. The current "Leave/Suspension without Pay and Reinstatement Operating Procedures" complies with legal requirements, and employees must submit applications for leave, suspension and reinstatement in accordance with the Procedures. For the fines imposed due to violations in 2023, improvement measures such as reviewing operating procedures and personnel training had been taken to ensure that the relevant violations had been rectified to comply with legal requirements. Nuvoton aims to establish a respectful and equal working environment where every employee has fair opportunities and treatment. We will continue to strive to ensure that our organization adheres to the provisions of the Gender Equality in Employment Law.

Anti-Money Laundering Policy

Nuvoton adheres rigorously to BIS¹ and OFAC² guidelines for anti-money laundering management. In addition to integrating the OFAC economic sanctions country list within its internal system and verifying inclusion in the OFAC list during payment processing, the anti-money laundering policy aligns with correspondent banking regulations. It mandates that the details of all payment recipients must match the information on the order, invoice, or receipt provided to the Company before any export operations can proceed.

- The Bank for International Settlements (BIS) advances the adoption of anti-money laundering measures by fostering global financial stability and establishing regulatory standards. It aids financial institutions in adhering to anti-money laundering regulations and encourages international collaboration and coordination to counteract transnational money laundering activities.
- The Office of Foreign Assets Control (OFAC) of the U.S. Treasury Department prevents funds from reaching individuals and entities engaged in money laundering, terrorist financing, or other illegal activities through sanctions. It monitors and manages financial transactions involving sanctioned countries and individuals, thereby helping to ensure the security and compliance of the U.S. financial system.

3.3.2 Integrity Operation

To ensure integrity operation across its operations, Nuvoton establishes a sound internal governance architecture. The Sustainability Development Committee and its finance, audit, and human resources units are tasked with monitoring the implementation of internal integrity operation policies and prevention programs. Through the establishment of norms, continuous improvement efforts, rigorous supervision and control mechanisms, as well as comprehensive education and training initiatives, employees (including part-time employees) are thoroughly acquainted with the principles of integrity operation, which deeply ingrain into the Company’s culture. Nuvoton has formulated management standards such as the “Rules for Integrity Operation Management,” “Rules for Ethical Corporate Management,” “Code of Conduct for Corporate Social Responsibility,” “Corporate Social Responsibility Best Practice Principles,” and “Regulations Governing Contributions” to comprehensively implement related policies. Additionally, Nuvoton conducts business activities based on the principle of integrity, and clearly defines employee code of conduct during operations, including prohibiting bribery and corruption, unreasonable gifts and hospitality, and preventing harm to stakeholders through products or services. All standards are approved by the Board of Directors and published on the Company’s external website and Market Observation Post System to ensure transparency of information. Nuvoton places significant emphasis on anti-corruption management. The Sustainability Development Committee



regularly reports to the Board of Directors on the outcomes of promoting and executing integrity operation training each year. Relevant units conduct self-assessments and reviews annually, followed by audits conducted by the audit unit to ensure compliance with internal controls and relevant legal regulations. On October 31, 2024, a report on progress in integrity operation was presented to the Board of Directors to introduce

our achievements in implementing the integrity operation policies. In 2024, the Company did not experience any incidents of employee corruption or other breaches of integrity operation. Nuvoton values the education, training, and promotion of integrity operation. Relevant regulations and preventive measures are incorporated into the training courses. The training course topics include integrity operation, anti-corruption, trade secrets, prohibition of insider trading, information security, personal data protection, RBA Code of Conduct, and Code of Conduct for Corporate Social Responsibility. It ensures that all employees (including part-time employees) participate in relevant training. The Sustainability Development Committee reports the annual advocacy and training achievements to the Board of Directors at least once a year. In 2024, the total number of trainees at Nuvoton was 3,334, with a completion rate of 100%. Nuvoton also incorporated integrity operation into the employee performance evaluation to ensure the sustainability and effectiveness of policy implementation. For detailed anti-corruption communication and training information, please refer to [Appendix 2: Social Data](#).



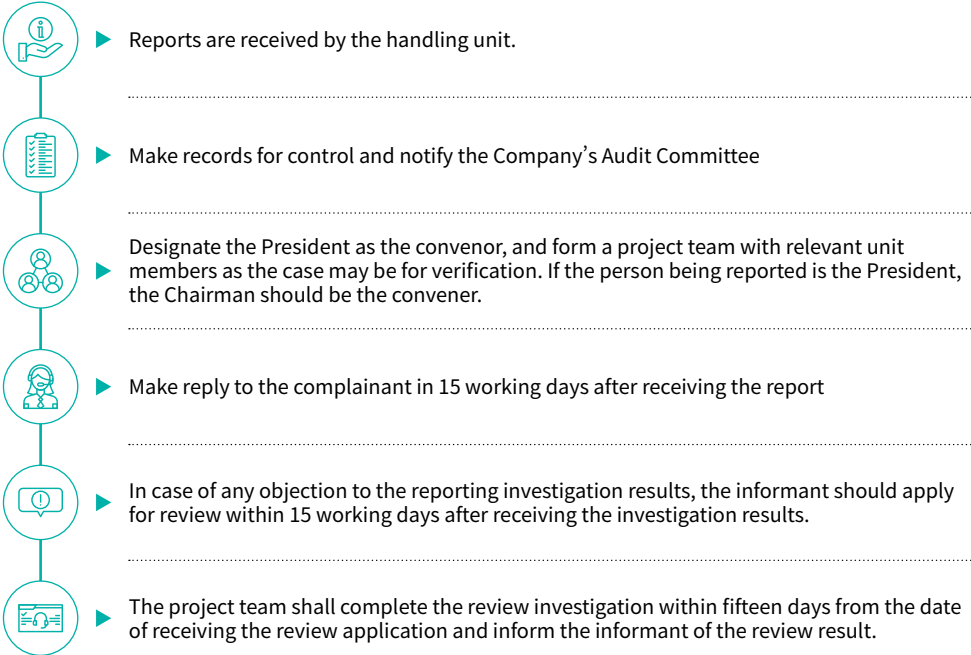
Nuvoton Taiwan has established reporting channels for stakeholders. If internal or external personnel discover any unfair business practices, bribery or improper benefits, fraud, coercion, or other illegal activities conducted by company employees, they can report anonymously or non-anonymously. The identity of any whistleblower and the content of the report are absolutely confidential. The reported cases are directly accepted by the Company’s audit unit and simultaneously submitted to the Audit Committee. The handling procedures are carried out in accordance with the provisions of the “Reporting Violations of Integrity Conduct Regulations.”


Complaint Mechanism and Channels

Nuvoton has established the “Reporting Violations of Integrity Conduct Regulations” to address integrity operation and material topics, and provide clear operational guidelines. This procedure includes a variety of channels for complaints and reports to ensure the confidentiality of complainants and their concerns. Whether anonymously or non-anonymously, both internal and external stakeholders can report improper or unfair actions through these channels. The Company’s audit unit will directly accept the case and simultaneously forward it to the Audit Committee. The handling process will adhere to the “Reporting Violations of Integrity Conduct Regulations” and be reported to the Board of Directors. If violations of relevant laws or Nuvoton’s integrity-related policies are confirmed, appropriate actions will be taken in accordance with the established procedures, including disciplinary measures outlined in the “Reporting Violations of Integrity Conduct Regulations,” “Work Regulations” and “Reward and Penalty Handling Regulations.” The Company ensures prompt cessation of any relevant actions of the perpetrator and appropriate resolution. Details of reported incidents and their resolutions are disclosed on the internal website. If necessary, legal actions may be pursued to seek damages and protect the Company’s reputation and interests.

In addition, to strengthen the complaint mechanism for integrity operation, in 2024, the Company added a “[dedicated channel for reporting violations of integrity operation](#)” on its official website. The audit unit is the dedicated unit for accepting reports, and the reports are also sent to the Audit Committee. We also promote this to all employees through annual training, so that all management and employees understand the timing and channels for reporting, and are encouraged to proactively expose dishonest behavior. The Company adheres to the principles of fairness and impartiality in investigating and handling reported cases. In 2024, there were no complaint cases of violations of integrity operation.

Complaint Process























 No complaints related to violations of ethical business conduct occurred in 2024.



In addition to the previously mentioned themes of responsible business conduct and integrity operation, Nuvoton has established complaint channels specifically addressing issues, such as harassment, labor rights, and working environment. These channels are accessible to employees, suppliers, contractors, customers, shareholders, and other stakeholders. All complaints are handled with utmost confidentiality, and designated contact points oversee each channel to ensure proper information management and limited access restricted to relevant personnel only. Upon receipt of a complaint, an investigation team is promptly assembled, prioritizing the protection of the complainant’s privacy throughout the process. All case records are meticulously maintained in compliance with legal requirements and company regulations. Only authorized personnel involved in case management have access to this information, ensuring the continued protection of complainants’ privacy.

Nuvoton is committed to upholding human rights in the workplace and endeavors to cultivate a safe environment where employees feel empowered to voice their concerns without fear of retaliation or mistreatment. To support this commitment, the Company has implemented internal regulations, including the “Prevention of Workplace Harassment Regulations,” “Prevention Plan for Unlawful Acts in the Performance of Duties,” “Company Complaint Management Regulations” and “Reporting Violations of Integrity Conduct Regulations.” These measures are designed to explicitly protect the rights of individuals who raise complaints. Nuvoton strictly prohibits any form of retaliation against complainants or individuals involved in investigations, and such actions will be met with disciplinary measures in accordance with company policies.

Company	Complaint Theme	Complaint Channel	Lead Divisions
Nuvoton Taiwan	Integrity operation	 1. Nuvoton official website complaint channel	Audit Department
	Responsible business conduct	 1. Email of the Sustainability Development Committee: ESG@nuvoton.com  2. Company complaint management regulations - Company complaint form	Sustainability Development Committee
	Harassment	 1. Nuvoton official website complaint channel  2. Harassment complaint hotline: 03-577-0066  3. Harassment complaint fax: 03-667-5316  4. Harassment complaint email: SHP@nuvoton.com  5. Company complaint management regulations - Company complaint form	Human Resources Department
	Labor rights, health & safety, environmental protection, general affairs and other suggestions	 1. Nuvoton official website complaint channel  2. Channel for advice feedback on general affairs  3. Email of Sustainability Development Committee: ESG@nuvoton.com  4. Physical suggestion box at factory/office premises  5. Company complaint management regulations - Company complaint form  6. Communication Meetings: Labor-management meetings, regular committee meetings, Occupational Safety and Environmental Protection Committee meetings, managerial discussions, Town Hall Meetings, new employee forums	Sustainability Development Committee
Nuvoton Japan	Responsible operations and integrity operations	 1. Internal Complaint Email: sys_ntcj_hotline@nuvoton.com  2. External Complaint Email: report_ntcj@yglpc.com	Legal Department
	Human rights and labor safety	 1. Occupational Health and Safety Committee  2. Regular labor-management meetings  3. Direct communication with the management team  4. Face-to-face meetings with human resources department	Administration Center

Internal Audit and Internal Control

The internal audit units of Nuvoton Taiwan and Nuvoton Japan report directly to the Board of Directors. The appointment and dismissal of the audit head at Nuvoton Taiwan must be approved by both the Audit Committee and the Board of Directors. In contrast, the appointment and dismissal of the audit head at Nuvoton Japan require the consent of the supervisory committee, followed by approval from the Board of Directors.

The Company has established an internal control system in line with legal requirements and operational needs. In addition to reviewing the self-assessment results of the internal control systems of various units and subsidiaries, the internal audit unit also evaluates the control operations of various operational activities within the Company's internal control system to assess the effectiveness, compliance, and impact of the current internal controls. The frequency and content of cycle audits are established according to legal requirements and risk assessments. Moreover, important procedures and special cases may be audited at any time, or irregularly.

The internal audit units of Nuvoton Taiwan and Nuvoton Japan assess the design and operational effectiveness of various control processes within the internal control system according to the annual audit plan approved by the Board of Directors. If audit findings are identified in the audit report, they are monitored until improvements are made to ensure that the relevant units have taken appropriate corrective actions promptly. The internal audit head of Nuvoton Taiwan presents the audit report and follow-up report to the independent directors (convener of the Audit Committee) on a monthly basis after completion and delivers them to each independent director for review by the end of the month following the completion of the audit project. Quarterly reports on audit activities are also submitted to the Audit Committee and the Board of Directors. The internal audit head of Nuvoton Japan delivers the audit report and follow-up report to the independent directors by the end of the month following their completion and submits quarterly reports on audit activities to the Board of Directors. The 2024 annual audit plan has been executed in accordance with regulations, and the audit results and follow-up improvement status have been reported to the Audit Committee and the Board of Directors.

The Company is consistently improving the professional skills of its internal audit staff. Each year, audit personnel engage in both internal and external training sessions to stay updated with the latest professional knowledge and skills. The training curriculum includes topics such as enterprise risk management, regulatory compliance, ESG risk assessment, data analysis and digital audit technology, and audit practices. In 2024, the Company fulfilled regulatory requirements by completing professional courses at designated training institutions.

3.3.3 Risk Management

In response to the changing global economic environment and the operational impacts caused by sustainability risks, Nuvoton is committed to integrating the entire organization into its scope of risk management. The Company adopts its own risks as management items and introduces best practices for continuous management. The risk management process involves identifying, assessing, responding to, and tracking risks based on the Company's core business and external environmental conditions, covering economic, environmental, and social aspects of sustainability.

In Nuvoton Taiwan, the Sustainability Development Committee is responsible for identifying relevant risks that may impact the Company's sustainable development and devising subsequent strategies to realize the vision of sustainable development. This approach aligns with the key concerns of stakeholders and international trends. The Risk Management Committee focuses on the technical risks existing in the Company and the technical risk issues that the Company needs to pay attention to. Through discussions on response and monitoring, it ensures that the Company can adapt to various internal and external risks. In Nuvoton Japan, the Risk Management Promotion Committee has been established, chaired by the President of Nuvoton Japan. This Committee is responsible for establishing, operating, and continuously improving the risk management system of Nuvoton Japan. It conducts company-wide risk assessments annually and selects major risks for the year, formulates response plans for major risks as a main responsible unit, and reports the status of their implementation to the management team quarterly. Regarding risk assessment, both bottom-up and top-down discussion methods are adopted to thoroughly anticipate and comprehend potential risks from external and internal environments, and implement appropriate measures proactively. Our goal is to reduce, disperse, transfer, retain and avoid risks.



Operational Risk Identification

Risk Type	Risk Content Description	Control Strategy	Performance Indicator
Interest rate fluctuation	<ul style="list-style-type: none"> Arising from liabilities and financial investments associated with operational activities Interest income and expenses are affected by fluctuations in interest rates in Taiwan and the United States 	<ul style="list-style-type: none"> Monitor future market interest rate trends and gather information from various banks, assessing existing borrowing rates in a timely manner Build strong relationships with banks, and leverage our good bank financing credit records to secure relatively favorable borrowing rates 	<ul style="list-style-type: none"> Nuvoton primarily relies on operating cash inflows to meet funding needs. In terms of financial investments, the Company mainly invests in fixed deposits to ensure principal safety and maintain liquidity.
Exchange rate fluctuation	<ul style="list-style-type: none"> More than half of the procurement expenses for raw materials are paid in currencies other than New Taiwan Dollar, such as the US Dollar. As the main revenue comes in the form of the US Dollar, significant international exchange rate fluctuations impact the financial position. 	<ul style="list-style-type: none"> The Company utilizes derivative financial instruments (such as forward foreign exchange contracts) to hedge against recognized or anticipated foreign exchange exposures. These hedges mitigate most of the financial impacts caused by exchange rate fluctuations but do not completely eliminate them. The financial unit closely monitors exchange rate movements and maintains close communication with major correspondent banks to stay updated on exchange rate trends. This allows relevant management personnel to fully grasp exchange rate trends and make timely adjustments as needed. The "Procedures for Handling Derivative Financial Instruments" are formulated to regulate the transaction, risk management, supervision, and auditing of derivative financial instrument-related operations, thus reducing transaction risks associated with operating derivative financial instruments related to exchange rates. 	<ul style="list-style-type: none"> Nuvoton primarily uses forward foreign exchange contracts to mitigate exchange rate risks arising from assets and liabilities.
Inflation Deflation Market volatility	<ul style="list-style-type: none"> The unexpected changes in market inflation and deflation have a significant impact on the global economy. High levels of inflation or deflation will reduce market efficiency and disrupt investment decisions. 	<ul style="list-style-type: none"> Due to the nature of our products and services, the Company is not heavily affected by inflation or deflation. Additionally, we actively manage costs and operational expenses to mitigate the impact of inflation on our operations. 	<ul style="list-style-type: none"> We establish strong relationships with suppliers and customers to mitigate the impact of market price fluctuations on the Company's profitability.
Financing risk	<ul style="list-style-type: none"> The ability of Nuvoton to obtain financing depends on factors, such as the Company's future financial condition, operational performance, cash flow, and market financing activities 	<ul style="list-style-type: none"> We maintain good relationships with financial institutions. When financing is necessary, we will assess the actual funding requirements and plan appropriate short-term or long-term bank loans or other fundraising tools. The aim is to minimize the impact of interest rate fluctuations and funding costs on the Company's operations. 	<ul style="list-style-type: none"> We have established procedures, such as "Procedures for Acquisition or Disposal of Assets," "Operational Procedures for Loaning Funds to Others," "Endorsement / Guarantee Methods" and "Procedures for Derivative Financial Instrument Transactions" as the basis for relevant transactions to control financial transaction risks.

Risk Type	Risk Content Description		Control Strategy	Performance Indicator
Environmental risk	<ul style="list-style-type: none">In response to the global environmental sustainability topic, in addition to the risks caused by climate change, more risks related to water resources, life on land, and biodiversity may affect the sustainable operation of the Company. Furthermore, domestic and international environmental protection requirements are becoming increasingly stringent. In the future, significant investments in environmental protection or ecological restoration, reconstruction, or relocation of related pollution control equipment may be necessary to achieve sustainable operation and meet the expectations of relevant stakeholders.		<ul style="list-style-type: none">Monitor international dynamics and trends related to sustainability risks, and continuously review the appropriateness of the Company's sustainability strategyStay informed about feasible control technologies for adapting to climate change within the international or industrial contextContinuously apply the best available environmental protection technologies in the industryStrengthen the management and maintenance of existing pollution control facilities to effectively utilize their functionsPay attention to the needs of stakeholders and trends in regulatory changes, and strive to grasp them early to increase the buffer period for improvements	<ul style="list-style-type: none">In 2024, based on the review of existing environmental sustainability topics in 2023, various programs, including greenhouse gas inventories, assurance and reduction, water resource conservation and reuse, advancement of circular economy, and reduction of pollutant emissions, will be tracked by the Sustainability Development Committee and completed according to the planned schedule.Additionally, due to the government's announcement of new regulations on emission standards, the Company has allocated relevant costs for improvements. After completing the improvement plan, all pollution control equipment is within manageable limits.
Supply chain and critical raw material risk	<ul style="list-style-type: none">Risk associated with supplier lead time, quality, and price changes		<ul style="list-style-type: none">Establish diverse sources for products, and procure raw materials from different suppliers and regions to ensure a reliable supply of raw materialsAdhere to the principle of sourcing critical raw materials from multiple suppliers in different locations, sign long-term supply contracts with manufacturers, and maintain zero supply risk by using consignment arrangementsWhen unable to establish a secondary supplier for a particular item, requiring manufacturers to maintain safety stock at production sites and with agents, and adopting a Just-in-Time (JIT) production approach to minimize supply risks	<ul style="list-style-type: none">In 2024, there were no incidents of shortages in critical raw materials.
Intellectual property risk	<ul style="list-style-type: none">Involves infringement of patents, trademarks, copyrights, and trade secrets		<ul style="list-style-type: none">Product design and development teams collaborate with the intellectual property department to conduct searches, research, and analysis related to intellectual property rights. They employ strategies such as avoidance design or obtaining legal authorization to minimize (intentional) infringement.Actively address and resolve issues raised by plaintiffs, whether for commercial reasons, defense of intellectual property rights, collection of royalties, or other undisclosed purposesEngage in discussions with external lawyers to develop response strategies, foster rational interaction with mutual respect and seek win-win outcomes	<p>Implementation of the Intellectual Property Management Plan in 2024:</p> <ul style="list-style-type: none">Mandatory education and training for all new employeesQuarterly social engineering education training and monthly information security awareness campaigns to enhance employee awareness of phishing emails and information security defenseSigning of confidentiality agreements with customers and relevant suppliers to mutually protect confidential informationPeriodic use of software tools for software auditsThe patent portfolio is competitive among industry peers, with a significant increase in the composite scores for patent quality and value.

Business Continuity Management

To safeguard the Company’s operations against potential disruptions caused by disasters and accidents, Nuvoton has crafted a business continuity plan in line with ISO 22301 standards. This plan is comprehensive, encompassing strategies, operations, finances, and more, with the aim of identifying key risks and proposing effective countermeasures. In terms of strategy, we continuously monitor global regulations, political dynamics, economic shifts, and other external factors to evaluate their potential impact on the Company. This enables us to promptly adopt necessary risk response measures. Operationally, the Company maintains a thorough understanding of the status of critical materials, equipment capacities, and delivery schedules to ensure operational resilience. Financially, we employ appropriate hedging tools to mitigate exchange rate risks and structure debt maturity days, fixed or floating interest rates, and other financial instruments judiciously to minimize interest rate risks. Nuvoton Japan systematically conducts evacuation drills, fire brigade training, and EMC training as part of the business continuity plan training. In 2024, we invited instructors from the local fire department to educate on the importance of safe and accurate evacuation guidance, aiding participants in understanding the dangers and characteristics of smoke during a fire. The fire brigade provided fire safety education and training to 77 members of the guidance team. In addition, a total of 1,647 employees from various Nuvoton Japan sites participated in the evacuation and EMC (Emergency Call) drill for all employees during the South China Sea Trough earthquake.

Business Continuity Risk Identification and Control Measures

	Risk Category	Risk Management Theme	Control Measures
Nuvoton Taiwan	Operational risks	<ul style="list-style-type: none"> ▲ Fires ▲ Gas and chemical leaks ▲ Energy interruption ▲ Air pollution/wastewater discharge abnormalities 	<ul style="list-style-type: none"> ▲ The fire protection system is designed and constructed in accordance with domestic fire regulations and international standards, such as NFPA and FM. ▲ The factory and associated facilities are established to meet domestic regulations, with mechanical equipment chosen to adhere to these standards. Gas detectors and liquid leak detectors are installed for monitoring all day round. ▲ Emergency generators and uninterrupted power systems are installed. ▲ The operation of exhaust gas and wastewater treatment equipment is monitored 24 hours a day.
	Natural disasters	<ul style="list-style-type: none"> ▲ Earthquakes ▲ Water shortage 	<ul style="list-style-type: none"> ▲ The factory is designed to withstand earthquakes of magnitude 5. Main equipment and machinery have anti-seismic designs. ▲ Backup water tanks are installed, and contingency plans for water shortages are in place.
	Regulatory risks	<ul style="list-style-type: none"> ▲ Occupational Safety and Health Act ▲ Fire Services Act ▲ Environmental Protection Act ▲ Radiation Protection Act ▲ Energy Act 	<ul style="list-style-type: none"> ▲ Identification of regulatory impacts and corresponding measures are undertaken regularly. ▲ Periodic compliance checks are conducted, and newly revised regulations are identified.
Nuvoton Japan	Operational risks	<ul style="list-style-type: none"> ▲ Cyber attacks / information security attacks ▲ Energy supply interruption ▲ Fire ▲ Maintenance or electrical faults 	<ul style="list-style-type: none"> ▲ To respond to cybersecurity threats, a Security Operation Center (SOC) operating 24/7/365 has been established to monitor network equipment and detect and analyze cyber attacks. Additionally, a Computer Security Incident Response Team (CSIRT) has been set up to handle incidents in real time. ▲ To address the risk of prolonged power outages, emergency power generation equipment has been installed, and a dual power supply system is adopted to ensure stable electricity supply. ▲ The organization structure of the self-defense firefighting team is reviewed as needed, along with inspections of fire extinguishers and hydrants, and evacuation drills simulating fire scenarios are conducted to enhance fire response capabilities. ▲ An emergency automatic shutdown system has been installed.
	Natural disasters	<ul style="list-style-type: none"> ▲ Floods ▲ Seismic intensity below 5 ▲ Seismic intensity 5 or above 	<ul style="list-style-type: none"> ▲ Emergency measures include the establishment of an emergency response department, initial actions, and employee safety confirmation through EMC implementation. ▲ Standard procedures for emergency earthquake alerts are established. ▲ When an earthquake occurs, evacuation instructions are broadcast throughout the entire company premises, with guidance provided through automated voice instructions.
	Regulatory risks	<ul style="list-style-type: none"> ▲ Occupational Safety and Health Act ▲ Fire Services Act ▲ Environmental Protection Act ▲ Radiation Protection Act ▲ Energy Act 	<ul style="list-style-type: none"> ▲ Identify and comply with relevant regulations, and take appropriate actions accordingly ▲ Regularly check for changes in regulations and update or revise them as needed

Information Security

Nuvoton has established the “Nuvoton Security Policy” and “Information Security Management Measures,” and implemented control measures accordingly to maintain a secure information environment, protecting Nuvoton and customer information from theft, cybercrime, industrial espionage, or other forms of harm and loss. Confidentiality agreements are signed with manufacturers and customers to mutually protect sensitive data and prevent the improper disclosure of confidential information. Furthermore, the Company carries out yearly internal audits in accordance with its information security internal control system, convenes regular meetings to manage information security, where it reviews and monitors enhancements in information security operations, and routinely conducts risk assessments for both internal and external stakeholder topics, such as customers, suppliers, employees, and regulatory bodies.

In December 2022, Nuvoton Taiwan established the position of Chief Information Security Officer (CISO) and formed a new information security dedicated unit—the Information Security Department. In March 2024, it was upgraded to a division-level organization and renamed the Information Security Division. It is mainly responsible for the group’s information security governance, enhancing employees’ data security awareness and culture, preventing the leakage of sensitive information, strengthening data security defense and threat detection capabilities, and integrating internal and external resources to implement information security risk management, in order to ensure the information security resilience and continuous operation of the group organization. In 2024, to ensure customers that can collaborate with us with confidence, Nuvoton Taiwan introduced and validated the new version of the ISO 27001:2022 international information security management system in response to customer requirements. Nuvoton Japan also updated its certification to ISO 27001:2022 in 2024. Additionally, due to its involvement in IC card and automotive-related products, Nuvoton Japan has obtained ISO/IEC 15408 and ISO/SAE 21434:2021 certifications.



Information Security Risk Control Measures

Item	Specific Measures	Effectiveness in 2024
Enhancing employee awareness of information security	<ul style="list-style-type: none">Monthly information security awareness campaignsQuarterly information security education and training (Social engineering training)Annual personal data protection education and trainingAd hoc information security updates on current affairs or major events	<ul style="list-style-type: none">Conducted 6 sessions of information security education and trainingInformation security campaigns: Promoted information security through holding morning meetings, distributing training materials, and publishing Information Security Promotion Committee meeting minutes
Information security monitoring and handling of anomalous events	<ul style="list-style-type: none">Provide monitoring records and analysis reports weeklyHold weekly information security monitoring meetings to discuss events and take response measures	<ul style="list-style-type: none">In 2024, both Nuvoton Taiwan and Nuvoton Japan experienced no major information security incidents or impacts.

Item	Specific Measures	Effectiveness in 2024
Weakness and vulnerability management	<ul style="list-style-type: none"> For on-premises servers, conduct quarterly vulnerability scanning operations and schedule regular maintenance shutdowns monthly Apply critical updates from Microsoft regularly For external services, monitor risks using the Panorays cloud scanning tool 	<p>Nuvoton Taiwan</p> <ul style="list-style-type: none"> The Panorays cloud monitoring platform achieved an average total score > 90 points, with a total of 34 risks mitigated, including 19 classified as high/critical risks.
Identity access control	<ul style="list-style-type: none"> For cloud services, we utilize conditional access and multi-factor authentication, allowing access only to compliant devices and using specific programs. For remote connections, we implement identity verification, multi-factor authentication, and device whitelisting, ensuring connection under specified conditions. Regular password updates are conducted as well. 	<ul style="list-style-type: none"> We enhanced user login notifications, where users receive real-time alerts for successful logins to confirm the legitimacy of the login activity. We added a notification for VPN login multi-factor authentication failure. If the user finds it to be abnormal behavior upon receiving the notification, they can directly report it to the information security unit for handling. In 2024, neither Nuvoton Taiwan nor Nuvoton Japan experienced any major/high-risk incidents.
Physical security protection	<ul style="list-style-type: none"> Access to different areas is restricted based on employee roles, requiring the use of access cards for identity verification when entering each designated area. 	<ul style="list-style-type: none"> Complied with the access control security requirements of the ISO 15408 Common Criteria international standard
Code security	<ul style="list-style-type: none"> The application department is required to conduct code security checks when launching new systems, external service systems, or major updates. High-risk code should be patched to enhance the security of the system upon deployment. Regular updates to the code scanning database are performed to improve code detection efficiency. 	<p>Nuvoton Taiwan</p> <ul style="list-style-type: none"> In 2024, a total of 22 new systems were launched. The improvement rate for high-risk code corrections was 100%, and the program coverage rate for source code scanning was also 100%.
Email security	<p>Nuvoton Taiwan</p> <ul style="list-style-type: none"> Enhance the email server security settings by configuring SPF to authorize designated mail servers for sending emails on behalf of the Company, and implement DKIM and DMARC settings to prevent email spoofing and tampering <p>Nuvoton Japan</p> <ul style="list-style-type: none"> Utilize secure Outlook plug-ins to verify recipients, content, and attachments before sending emails, thereby preventing erroneous email transmissions The email monitoring feature of the IT equipment management tool (AssetView) is used to oversee the sending of inappropriate emails. 	<p>Nuvoton Taiwan</p> <ul style="list-style-type: none"> All emails must pass through a legitimate email server verification process, resulting in a 100% success rate for external deliveries. <p>Nuvoton Japan</p> <ul style="list-style-type: none"> The security features of Outlook were updated.
Endpoint behavior protection and monitoring	<p>Nuvoton Japan</p> <ul style="list-style-type: none"> The endpoint detection and defense tools are used along with SOC solutions to perform detection and response. 	<p>Nuvoton Japan</p> <ul style="list-style-type: none"> A total of 187 alerts were handled in 2024, with no serious information security incidents or virus infections occurred.
Supplier information security management	<p>Nuvoton Taiwan</p> <ul style="list-style-type: none"> The supplier review schedule is planned on an annual basis, and suppliers are required to complete the supplier information security questionnaire quarterly according to the planned content. If the evaluation score falls below 90, suppliers will be asked to make improvements, and the improvement status will be monitored. <p>Nuvoton Japan</p> <ul style="list-style-type: none"> Since 2022, information security checks have been performed on the supply chain, with ongoing partners being reassessed at least once a year, and guidance and improvement recommendations offered. 	<p>Nuvoton Taiwan</p> <ul style="list-style-type: none"> In 2024, suppliers with scores above 90 accounted for 70%, and suppliers with scores below 90 accounted for 30% and 0% of the suppliers with scores below 90 made improvement. <p>Nuvoton Japan</p> <ul style="list-style-type: none"> Safety inspections were conducted on 28 suppliers in 2024.

Information Security Education and Training

	Target Audience	Training Items	Content	Frequency	Total Hours	Completion Rate
Nuvoton Taiwan	General staff	General information security awareness	12 topics	Once a month	2	100%
		General information security awareness	Have knowledge of phishing emails, social engineering techniques, and data security protection	Once a quarter	2	99%
		General personal privacy protection	Personal data privacy protection	Once a year	0.5	100%
	Product security personnel	Product security, general courses	Product security training	At least once a year	6	100%
	Information security personnel	Product, General and Professional courses	Information and communication security technology, relevant regulations	At least once a year	8	100%
Nuvoton Japan	General staff	Information security awareness	Familiarity with information security risks and risk management measures	Once a year	0.2	100%
		Email self-inspection	Precautions when sending emails	Twice a year	0.5	100%
		Self-Inspection on Handling "company Mobile/Smartphones"	Implementation overview and issues	Once a year	0.2	100%
		Self-inspection on handling "laptop computers"	Precautions for taking laptops out of the office	Once a year	0.2	100%
	Members of the information security promotion committee	New committee member training	Basic status of information security promotion	Once a year	0.5	100%
		Training for all committee members	Basic status of information security promotion	Once a year	0.2	100%

3.3.4 Customer Privacy Protection

With the view of customers as strategic partners, Nuvoton strives to meet their needs and expectations. We also prioritize the protection of customer confidentiality and information. Customer-related information, documents, and data exchanged with customers are strictly controlled and stored within Nuvoton’s highly secure internal systems. Additionally, confidentiality agreements are signed with important manufacturers and customers to mutually protect sensitive information and prevent the exposure of customer information privacy and trade secrets. Based on the ISO 27001 Information Security Management System, Nuvoton has established a more comprehensive information security protection system. In 2024, Nuvoton did not encounter any complaints regarding violations of customer privacy rights or loss of customer data.

Customer Privacy Protection



Internal management

As information security threats continue to rise, Nuvoton strengthens its information security protection, expands the scope of international standard certifications for work safety and personal data protection operations, and ensures that the Company achieves the protection of customer privacy and prevents the theft or leakage of trade secrets and intellectual property rights. In addition to conducting regular audit and internal control self-assessment operations annually, Nuvoton sets control points based on personnel, customer, and manufacturer data, regularly inspects and records the execution status of control points, and conducts annual review and audit operations to establish a comprehensive information security environment, thereby avoiding the occurrence of major incidental events and penalties, and maintaining the reputation of the Company and its customers.

Nuvoton Japan publicly releases its privacy policy and obtains consent from customers and business partners before processing personal information. When receiving from or providing personal data to third parties, it adheres to the Personal Information Protection Law.



ISO 15408

In 2014, Nuvoton Taiwan obtained the ISO 15408 Common Criteria EAL 4+ product security certification. The verification covered the stages of “Design & Development,” “Production,” and “Delivery” of the product. This indicates that Nuvoton Taiwan’s controls for product information security meet the requirements of the International Security Organization Common Criteria, enabling the production of security products that meet international standards and protect customer information and assets.



Compliance with privacy laws

To ensure compliance with privacy protection regulations, such as the Personal Data Protection Act, the General Data Protection Regulation (GDPR) in the European Union, and the California Consumer Privacy Act (CCPA) in the United States, Nuvoton Taiwan conducted training on the Personal Data Protection Act for all employees in 2024. The training included an introduction to GDPR and Taiwan’s Personal Data Protection Act, with a completion rate of 100%. In Nuvoton Japan, training materials on personal information, including GDPR, were published on the Company’s internal portal (e-learning), allowing all employees to access them at any time.



Signing confidentiality agreements

While focusing on enhancing customer service, Nuvoton places a strong emphasis on safeguarding customer privacy and intellectual property rights. Confidentiality agreements are signed with customers to protect sensitive information, and confidential data protection procedures are established to ensure there is no risk of leakage of sensitive information, thereby safeguarding customer privacy effectively.

3.4 Sustainable Supply Chain

3.4.1 Composition and Overview of Supply Chain

Since its establishment, Nuvoton has aimed to establish a semiconductor supply chain that is robust and resilient in the long term. It prioritizes the localization of raw material production, continuously increasing the proportion of local procurement, and gives preference to environmentally friendly products that are low in pollution and recyclable. By implementing social and environmental responsibilities in the supply chain, Nuvoton seeks to have a positive impact on society, the environment, and the economy. Nuvoton requires that suppliers involved in products containing minerals of concern to the Responsible Minerals Initiative (RMI) must 100% sign the "Non-Use of Conflict Minerals Declaration," and all suppliers are required to sign the "Compliance Commitment Code of Conduct" and the "Confidentiality Agreement." All suppliers must go through the review process of Nuvoton's Approved Vendor List (AVL). Suppliers also regularly declare and ensure that the raw materials of Nuvoton products are sourced from qualified smelters, and the source of raw materials of products is 100% traceable. Nuvoton has set goals to gradually increase the proportion of major suppliers¹ passing RBA VAP and publishing sustainability reports, and encourages them to obtain international certifications such as ISO 14064 and ISO 14001 for environmental management systems. Nuvoton continues to collaborate with suppliers to drive corporate sustainability, not only stabilizing the development of the supply chain but also contributing to the industry.



Environment

Reducing environmental impact

- Major suppliers obtain ISO 14001, ISO 14064, or equivalent international standard certification.
- Compliance with relevant regulations on harmful substances in products




Society

Ensuring labor rights

- Compliance Commitment Code of Conduct
- Non-Use of Conflict Minerals Declaration
- Establishment of conflict minerals management system, conducting due Diligence on conflict minerals

Supplier evaluation

- Issuance of supplier ESG & RBA self-assessment questionnaires annually
- Tracking major suppliers' completion of RBA VAP

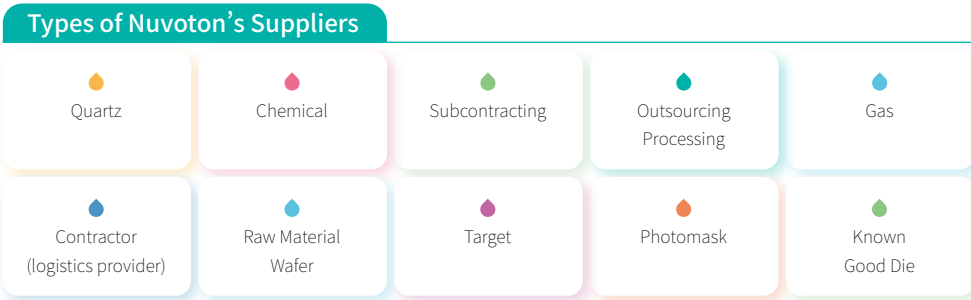


Economic

Tracking business continuity plans

- Tracking major suppliers' completion rate of BCP (Business Continuity Plan) SAQ

In 2024, Nuvoton Taiwan had a total of 791 key suppliers across various categories including raw materials, quartz, photomasks, outsourcing processing, subcontracting, Known Good Die (KGD), and logistics providers. Among these, the majority of the raw material suppliers are local businesses registered in Taiwan, making up 88.2%. The remaining suppliers are distributed in Japan, Mainland China, and other regions. These suppliers have established long-term cooperation and provided stable supplies, with no significant changes in the supply chain observed in 2024. In 2024, Nuvoton Japan has a total of 75 suppliers, with 59 located domestically in Japan and 16 overseas (including Taiwan, Singapore, Mainland China and so forth). The majority, accounting for 79%, were local businesses registered in Japan.



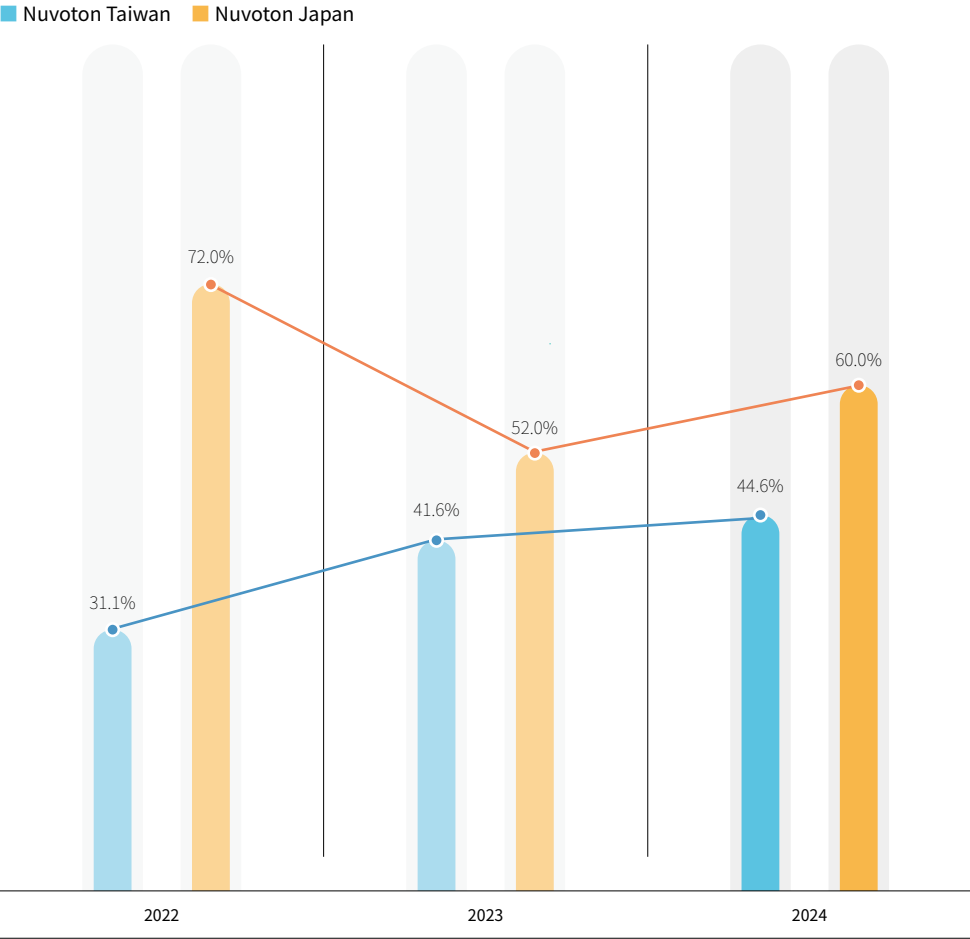
¹ Top 90% suppliers in terms of transaction value with the Company

In recent years, Nuvoton has been committed to purchasing raw materials produced locally to reduce transportation costs, carbon emissions and risk diversification. Additionally, it aims to promote local production, better control product quality, shorten delivery time and increase local employment opportunities. Local suppliers for Nuvoton Taiwan are primarily from the Taiwan region, with important operational sites located at the Taiwan headquarters. Similarly, local suppliers for Nuvoton Japan are from the Japan region, with important operational bases located at the Japan headquarters. In 2024, the proportion of locally sourced raw materials reached 44.6% for Nuvoton Taiwan and 60% for Nuvoton Japan based on a growth of 3% and 8% compared with the previous year, indicating that local sourcing remains an important strategy for supplier selection. Despite the limitations imposed by industry characteristics, Nuvoton will continue to maintain close relationships with local suppliers in the future, striving to reduce costs and risks together.

Committed to environmental protection, Nuvoton continuously promotes energy-saving and carbon-reduction measures in its offices and various locations. Additionally, it supports the Taiwan government's green procurement policy by prioritizing and procuring environmentally friendly products that comply with "low pollution, resource conservation, and recyclability" criteria. Moreover, Nuvoton incorporates green procurement concepts into its procurement management system to achieve energy saving, carbon reduction, and operational expense reduction goals.



Percentage of Local Procurement Amounts from Raw Material Suppliers as a Proportion of Total Procurement Amounts



3.4.2 Sustainable Supply Chain Management

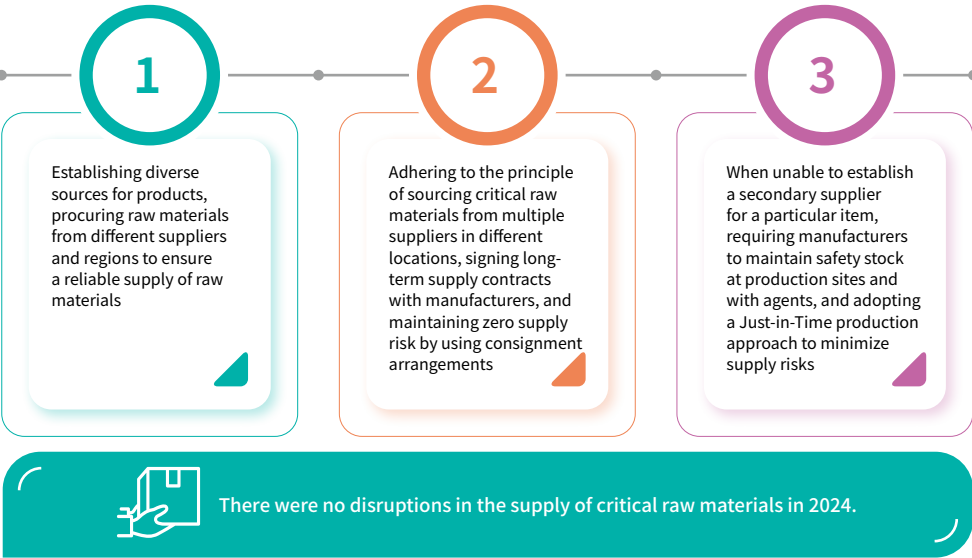
Nuvoton has established a Supplier Management Team under the Sustainability Development Committee that is responsible for formulating policies related to supplier sustainability management. It leverages its influence and collaborates with suppliers to prioritize and promote corporate sustainability, achieving the vision of a sustainable supply chain. Nuvoton Taiwan’s strategy for promoting a sustainable supply chain includes developing risk management methods for critical materials, setting short-, medium-, and long-term goals to increase the percentage of major suppliers completing RBA VAP and publishing sustainability reports. Nuvoton Japan has established different risk assessment frequencies for all suppliers, including outsourced semiconductor assembly and test (OSAT) and wafer foundries. Nuvoton Japan manages the sustainability of the supply chain through various surveys and provides education and training on Japanese government procurement regulations for purchasing personnel.

Nuvoton Taiwan Sustainable Supply Chain Management Goals

Topic	Strategy	Performance Goals	2023 Baseline	2024 Target	2025 Target	2030 Target	2024 Implementation Results
Supplier sustainability management	Risk management of critical materials	SAQ (Self-assessment questionnaire) completion for major suppliers BCP (Business continuity plan)	0%	Completed questionnaire design	10%	100%	<div><div></div>Achieved</div> Completed questionnaire design
	Management of hazardous substances	Comply with regulations and customer specifications regarding the absence of hazardous substances in products	100%	100%	100%	100%	<div><div></div>Achieved</div> 100%
	Reduction and target setting of greenhouse gas emissions from suppliers	Major suppliers passed ISO 14064 or equivalent international standards (for example, GHG protocol) verification	79%	86%	100%	100%	<div><div></div>Achieved</div> 93%
		Greenhouse gas emissions reduction targets for major suppliers (V.S.2021)	3%	4%	5%	15%	<div><div></div>Achieved</div> Expected to be 10% ¹
	Compliance with RBA standards and GRI requirements for supply chain management	Signing of RBA Code of Conduct for Suppliers from Approved Vendor List (AVL)	100%	100%	100%	100%	<div><div></div>Achieved</div> 100%
		Signing of the “Non-Use of Conflict Minerals Declaration” by relevant suppliers.	100%	100%	100%	100%	<div><div></div>Achieved</div> 100%
		Number of major suppliers which have completed ESG reports	86%	93%	93%	100%	<div><div></div>Achieved</div> 93%
		Number of major suppliers which have completed RBA VAP	50%	50%	57%	100%	<div><div></div>Achieved</div> 57%

1 Based on production volume and historical carbon emission factors, an approximate reduction of 10% is estimated.

As a key player in the semiconductor supply chain, with a focus on chip design upstream and wafer manufacturing midstream, Nuvoton closely collaborates with suppliers in the industry chain to form partnerships based on specialized division of labor and mutual cooperation. As a global semiconductor industry leader, collaborating with suppliers to build a sustainable supply chain is a key indicator of Nuvoton’s sustainable development management. Nuvoton pays attention to labor rights in the supply chain, requiring suppliers to operate in compliance with relevant laws of their operating countries and comply with relevant international industry codes of conduct, including the Responsible Business Alliance (RBA) Code of Conduct and any changes or amendments thereto. All manufacturers in the supply chain are required to sign the “Compliance Commitment Code of Conduct” and “Confidentiality Agreement.” Over the past three years, 100% of Nuvoton’s suppliers have signed the Supplier Code of Conduct. In 2024, Nuvoton’s suppliers did not experience any human rights disputes related to child labor, forced labor, violation of the freedom of association or collective bargaining rights of employees. In the risk management of critical materials (wafers, chemicals, gases, targets), Nuvoton employs three main control strategies. In 2024, there were no instances of critical material shortages:



Supplier Selection

Nuvoton’s selection mechanism for new suppliers is designed with reference to RBA standards. It considers multiple factors, such as the use of hazardous substances, quality, price, and environmental considerations. Suppliers meeting Nuvoton’s requirements must sign agreements, including the “Compliance Commitment Code of Conduct,” “Confidentiality Agreement,” and “Non-Use of Conflict Minerals Declaration.” Nuvoton also requires manufacturers to faithfully execute all transactions without harming Nuvoton’s interests or reputation to become qualified suppliers. Additionally, Nuvoton encourages suppliers to obtain international certifications, such as ISO 14001 for environmental management systems. If suppliers cannot obtain these certifications promptly, Nuvoton requires them to provide a schedule for obtaining the certification.

Selection Mechanisms for Suppliers	
<div></div> <div>Environmental Management System Certification</div>	<div>Nuvoton Taiwan</div> <div>Encourage its supply chain manufacturers to obtain international certifications such as ISO 14001 for environmental management systems. If they cannot obtain them promptly, they are required to establish a schedule for obtaining the certification.</div> <div>Nuvoton Japan</div> <div>Regularly inspect suppliers to ensure that manufacturers have established environmental management systems and tracked actual operations</div>
<div></div> <div>Code of Conduct</div>	<div>Nuvoton Taiwan</div> <div>Actively adopt the standards of the Responsible Business Alliance (RBA) Code of Conduct, and requires all supplier factories to jointly sign the “Compliance Commitment Code of Conduct” and “Confidentiality Agreement.” Manufacturers must faithfully execute all transactions without harming Nuvoton’s interests or reputation.</div> <div>Nuvoton Japan</div> <div>Before cooperating with new suppliers, we conduct quality and environmental audits and require manufacturers to sign a “Guarantee of Non-Usage of Hazardous Substances.”</div>
<div></div> <div>Conflict Minerals Management</div>	<div>Nuvoton Taiwan</div> <div>Relevant suppliers are required to sign the “Non-Use of Conflict Minerals Declaration,” including wafer foundry subcontractors, packaging plants, and raw material suppliers.</div> <div>Nuvoton Japan</div> <div>Currently discussing with the Taiwan headquarters to extend the scope of signing the “Non-Use of Conflict Minerals Declaration” to Nuvoton Japan’s suppliers</div>

Method for Supply Chain Management

In 2023, we conducted RBA risk assessments for our top 92% major suppliers by revenue, covering ESG risk evaluation content (including environmental, social, and governance aspects). Starting from 2024, key suppliers are required to undergo regular assessments, including completing a major supplier self-assessment questionnaire (SAQ) on the business continuity plan (BCP) and compliance with product-related regulations on elimination of hazardous substance and customer specifications. Nuvoton commits to continually assessing supplier risks, measuring the extent of negative environmental and social impacts, and devising improvement plans to enhance the resilience of the overall supply chain.

Nuvoton manages and guides qualified suppliers through three major aspects, while also requiring them to obtain third-party quality system certifications such as ISO 9001, IATF 16949, or QC 080000. Additionally, suppliers must sign Nuvoton’s “Compliance Commitment Code of Conduct” and undergo document review, with on-site audits being a necessary condition for outsourced processing suppliers. To assist suppliers in enhancing sustainable performance, the following are Nuvoton Taiwan’s relevant initiatives aimed at increasing overall competitiveness and strengthening supply chain stability.

Supplier Assessment

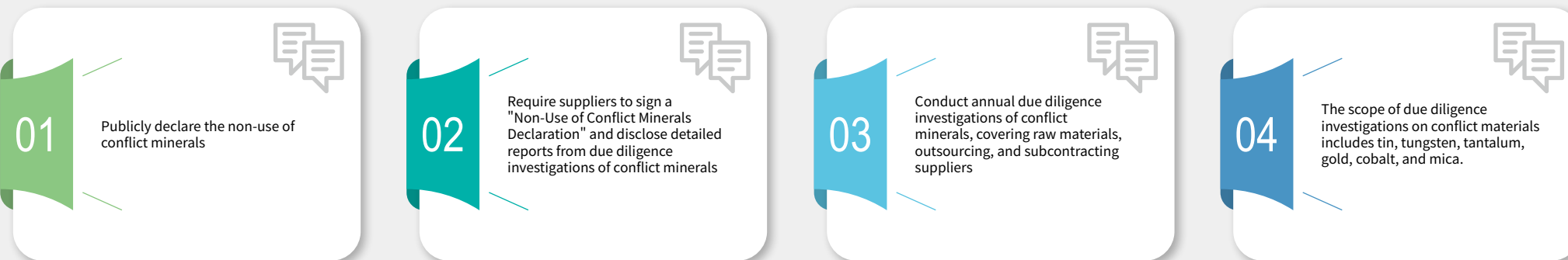
In 2024, Nuvoton Taiwan had a total of 14 major suppliers, accounting for approximately 92% of total supplier transactions. An annual RBA VAP audit process was conducted, covering the ESG risk assessment of suppliers (including environmental, social, and governance aspects). The number of suppliers passing the RBA VAP has increased by 1 to 8 compared to 2023. Nuvoton Japan continues to conduct regular surveys on existing suppliers every year, including sustainability questionnaires, business continuity plan assessment questionnaires, and Scope 3 emissions questionnaires. After reviewing the survey results, suppliers are required to make improvements as needed. Nuvoton commits to assessing supplier risks, measuring the extent of negative environmental and social impacts, and evaluating identified deficiencies from audit results, requiring suppliers to implement improvement plans to enhance the resilience of the overall supply chain.



	New supplier assessment	Assess key items related to supplier product quality, quality systems, environmental management systems, and supplier human rights to ensure that new suppliers meet the quality objectives and sustainability management direction required by Nuvoton
	Monthly supplier meetings	Regularly hold supplier meetings to report on quality, material management, product delivery timelines, and new product development progress, provide timely suggestions and assistance, and maintain long-term cooperative relationships
	Quarterly supplier evaluation	Evaluate suppliers using a collective assessment method. Score suppliers quarterly based on quality, delivery performance, service, etc. Provide feedback, guidance, and assistance to suppliers with scores below the standard to ensure alignment with the strategic goals of supplier sustainability management
	Annual ESG risk assessment for key suppliers	Nuvoton prioritizes its sustainable image by consistently reducing Scope 1 and 2 emissions, and seeks to encourage supply chain partners to collaboratively address climate change, working towards the planet’s sustainability. Additionally, by joining the Responsible Business Alliance (RBA) as a member, Nuvoton pledges its commitment to labor, occupational safety and health, as well as ethical standards. Key suppliers are required to complete the Supplier SAQ (Self-Assessment Questionnaire), assisting Nuvoton in understanding the current state of environmental and social management in the supply chain, and jointly creating sustainable value
	Annual supplier audit	An annual audit of packaging and testing suppliers is conducted to assess the actual implementation and adherence to quality standards by the suppliers. If any deficiencies are identified during the audit, the supplier is required to propose an appropriate improvement plan, specifying clear actions, timelines, and improvement items, with ongoing follow-up.

3.4.3 Conflict Minerals

Nuvoton Taiwan Conflict Minerals Management System



Nuvoton is committed to upholding international human rights standards and places high importance on the topic of conflict minerals. Nuvoton Taiwan has established a conflict minerals management system and published the [“Statement of Non-use of Conflict Minerals”](#) on its official website. All suppliers, including wafer foundries, packaging plants and raw material suppliers, are required to avoid using these metals in the raw material procurement and production process of the products, and to sign a “Non-Use of Conflict Minerals Declaration,” declaring that the tantalum (Ta), tin (Sn), tungsten (W) and gold (Au) contained in the manufactured products do not originate from armed organizations in the Democratic Republic of the Congo or its neighboring countries/regions, and are all from the list of qualified smelters announced on the official website of the Responsible Minerals Initiative (RMI). Similarly, suppliers are required to comply with the provisions prohibiting the use of “conflict minerals” before they can be included in the Approved Vendor List. In addition, Nuvoton Taiwan requires suppliers to conduct thorough investigations and disclose conflict minerals due diligence reports, with

the investigation frequency aligned with updates to the Responsible Business Alliance (RBA) Code of Conduct. Conflict minerals investigations were conducted for the aforementioned suppliers (including subcontractors), with all suppliers being 100% compliant with the relevant regulations. Over the past three years, all suppliers of Nuvoton Taiwan have 100% signed the Declaration. Since 2011, Nuvoton Japan has actively promoted conflict minerals management and announced a policy of non-use of conflict minerals on its official website. If any supplier is found to be using conflict minerals, immediate action will be taken to cease usage. Nuvoton Japan requires related suppliers to conduct regular surveys and also performs annual due diligence on conflict minerals, with the scope of mineral investigation being the same as that of Nuvoton Taiwan. Suppliers are required to make commitment to Nuvoton Japan that their products do not use metals from conflict-affected areas, enabling Nuvoton Japan to respond to customer inquiries regarding conflict-free minerals, thereby enhancing the sustainability of the supply chain.



Nuvoton commits to using minerals sourced in compliance with the standards outlined in the OECD (Organization for Economic Cooperation and Development) “Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas,” or equivalent recognized due diligence frameworks. Nuvoton conducts due diligence to avoid the use of metals from illegal mining that violate human rights in the product materials and production processes.

Nuvoton adopts the Conflict Minerals Reporting Template (CMRT) issued by the Responsible Minerals Initiative (RMI) for conflict minerals such as tin, tungsten, tantalum, and gold. Nuvoton Taiwan has been conducting conflict minerals due diligence since 2014, and the 2024 survey covers 8 wafer foundry suppliers, 8 subcontractors, and 4 raw material suppliers, totaling 20 entities. In 2024, the mineral raw materials such as tin, tungsten, tantalum and gold used by Nuvoton Taiwan were from 212 smelters in 68 countries. In 2024, Nuvoton Japan conducted due diligence covering 19 outsourced semiconductor assembly and test (OSAT) suppliers, 5 wafer foundry suppliers, 2 semiconductor manufacturers, 12 electronic material manufacturers, and 11 trading companies, totaling 49 entities. The mineral raw materials used in 2024 came from 244 smelters across 77 countries. Both Nuvoton Taiwan and Japan exclusively use smelters accredited by the Responsible Minerals Initiative (RMI).

In addition to 3TG, Nuvoton has expanded the scope of its investigations. In 2021, investigations were conducted on cobalt and mica suppliers, with disclosure of the sources of their smelters to customers. In 2024, the cobalt mineral raw materials used by Nuvoton Taiwan were sourced from 12 smelters spanning 8 countries, with no suppliers using Mica. The cobalt mineral raw materials used by Nuvoton Japan were sourced from 19 smelters in 9 countries, also with no suppliers using Mica. Nuvoton will continue to monitor and track the sources of minerals provided by suppliers to ensure that all raw materials are sourced from qualified smelters and that the origin of product raw materials is 100% traceable.

RMI Certification Qualified

Investigation Items/ Mineral Name	Tin	Tungsten	Tantalum	Gold	Cobalt	Mica	Total
Number of Nuvoton Taiwan smelters	65	21	25	89	12	0	212
Number of countries with Nuvoton Taiwan smelters	16	5	9	30	8	0	68
Number of Nuvoton Japan smelters	67	34	32	92	19	0	244
Number of countries with Nuvoton Japan smelters	18	9	10	31	9	0	77

3.4.4 Customer Service

Since its inception, Nuvoton's mission has been to meet customer requirements by providing high-quality and market-competitive products, which is also the key to the Company's continuous maintenance of customer trust. To achieve this goal, Nuvoton has launched an extensive customer service program, including specialized wafer foundry services, co-development of new products with partners, and training courses on the application of Nuvoton products. In addition, Nuvoton also offers customers the convenience of placing orders either physically or online, enhancing the accessibility of purchasing products. A wide range of professional consulting services are also provided, from introductions to new product applications and regional customer technical support and consulting, with multiple consultation channels, such as business representatives, distributors, agents, and online customer service.

To assist customers in achieving rapid development, mass production, and easy upgrades, and to provide customers with the best development experience, Nuvoton has designed the "NuDeveloper" ecosystem, which offers the following customer services:

NuDeveloper

01

Comprehensive development tool platform:

Development boards, debuggers and programmers, software tools, board support packages (BSP) and sample code, IDE drivers



02

Rich offering of online digital resources:

Providing online access to product knowledge, tutorial videos, product selection, finding/downloading development resources, purchasing products, and technical and sales support to meet various online and digital resource needs



03

Collaborating with third-party vendors to provide a rich variety of software and hardware reference design solutions:

Offering diverse cloud services and networking options, supporting multiple operating systems, and providing easy-to-use, professional graphical user interface software



NuDeveloper Ecosystem – Make Engineers' Jobs Easier

nuvoton.com
Product Information/ Documents/ Selection

- Online Support: NuForum/ Sales Support Mailbox/ Online Chat
- Social Media & Knowledge Base: LinkedIn/ Facebook/ Twitter/ WeChat
- Video Platform: YouTube/ bilibili
- Open Resource: Github/ Gitlab/ Gitee



Online buy

- Nuvoton Direct
- Tmall
- TechDesign
- DigiKey



Digital Platform

arm KEIL IAR Embedded Workbench
NuEclipse NuEdgeWise

IDE

Nu-Link2-Pro/ Nu-Link2-Me
Nu-Link-Gang/ Gang Writer

Debugger & Programmer

NuMaker Series/
Motor Control Series/
Power Control Series

Evaluation Board

Development Platform

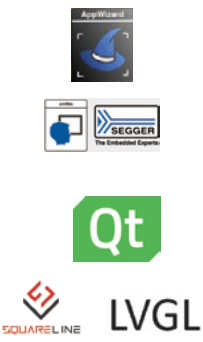
MCU BSP (API Compatible) /
Linux BSP/ Peripheral Driver/
Library / Rich Sample Code
Third party resource

BSP & Example Code

NuIDE/
UltraIO/ VR Lib/
CodeGenerator/ PinView/
PinConfig/ ClockConfig/
LCDView/ TouchView/
ICP/ISP Programming/
Nu-Link Command/
USB to Serial Port/
NuAudio

Software Tool (NuTool)

HMI Platform



IoT Device and Gateway



DALI 2 Solutions

Supports all control gear
and control/ input device
certified library protocol

102	103
202	301
206	302
207	303
208	304
209	

Platform

BMS	LCD Touch Key	Cold Chain	Thermostat
Lighting Control	HDMI2.1	USB Type-C PD3.1	AR & VR

Reference Design Platform

8051/ M0/ M23/ M4/ M7/ Arm9/ A35 based Microcontroller

NuMicro® Microcontroller Platform

In order to obtain customers’ comments of Nuvoton’s services, the Quality Assurance Department conducts a customer satisfaction survey (CSS) every year and collects customer opinions on the marketing, sales, delivery, quality improvement, technical support and customer service of new products through questionnaires. After analyzing the data, Nuvoton convenes relevant units, such as business departments, sales departments, research and development departments, and production management departments to formulate improvement plans based on customer feedback within one month, and responds to customers accordingly. The Quality Assurance Department will also report the analysis results to the management as a reference for adjusting company resources and improving customer satisfaction.

The customer satisfaction survey includes five main themes: research and development, production (logistics), quality and improvement, customer service, and value chain. The questionnaire evaluates various aspects, such as marketing of new products, sales, delivery, quality improvement, technical support, customer service, and corporate image. Additionally, it invites customers to rate the importance of these factors to prioritize the results.

Nuvoton uses the Importance and Performance Matrix (IPM) to analyze the results of the customer satisfaction survey and identify areas that customers consider important but where there is still room for improvement in performance. This helps company executives decide on the allocation of limited resources. The results are presented in a quadrant visual representation, making it easier for stakeholders to read and understand.



Importance of each factor: The rating ranges from moderately important (6 points) to extremely important (10 points).

Results of Customer Satisfaction Surveys

In November 2024, an external agency was commissioned to conduct the annual Nuvoton Customer Satisfaction Survey for the year 2024. The survey conducted by Nuvoton Taiwan targeted customers who ranked in the top 70% of total sales. A total of 62 customer satisfaction questionnaires were sent out, with 52 responses received, yielding an 84% response rate. The survey conducted by Nuvoton Japan targeted customers who ranked in the top 60% of total sales. A total of 41 customer satisfaction questionnaires were sent out, with 34 responses received, yielding an 83% response rate. Across the five major themes of Research and Development, Production (Logistics), Quality and Improvement, Customer Service, and Value Chain, Nuvoton Taiwan achieved an overall average satisfaction score of 8.7/10. Compared to 2023, the satisfaction levels in customer service and the value chain have improved in 2024 through measures such as offering competitive products and enhancing the handling of RMA cases. The overall average satisfaction score of Nuvoton Japan is 7.87/10 points; quality satisfaction in 2024 increased compared to 2023, thanks to improved logistics satisfaction and faster analysis through inventory management.



1 Score range (maximum score of 10), from lowest to highest: Very Dissatisfied, Dissatisfied, Neutral, Satisfied, Very Satisfied.



Chapter 4
Environmental
Sustainability

2024 Performance Highlights



Nuvoton Taiwan achieved annual energy savings of **1.163 million kWh**.



Awarded a “**B Management**” level rating for “Climate Change” and a “**B-Management**” level rating for “Water Security” in the Carbon Disclosure Project (CDP)



Nuvoton Japan has finalized a **Power Purchase Agreement (PPA)** with the power company for green electricity.



Conduct climate change risk assessments for Nuvoton Taiwan and Nuvoton Japan, and independently issued **TCFD report**

4.1 Climate Change

4.2 Greenhouse Gas Management

4.3 Energy Resource Management
and Circular Economy


- 4.3.1 Energy Management
- 4.3.2 Water Resource Management
- 4.3.3 Circular Economy
- 4.3.4 Key Chemical Raw Materials

4.4 Air Pollution Control




Nuvoton is committed to achieving net carbon zero by 2050 as an overall environmental goal. The Company has established three major environmental protection strategies: “Cherish Resources,” “Reduce Pollution Emissions,” and “Develop Green Products.” By promoting green production, increasing the proportion of renewable energy, improving energy performance, optimizing equipment efficiency, and reducing pollutant emissions, Nuvoton actively implements various greenhouse gas and energy resource reduction measures at its sites in Taiwan and abroad. To address the impacts of climate change, Nuvoton continues to identify significant potential and actual risks and opportunities posed by climate change to its operations and promote various climate change mitigation and adaptation projects.

Environmental Strategy Focus



Cherish Resources


- 1 Increase the utilization rate of renewable energy
- 2 Recycle secondary wastewater to the cooling tower through the DI activated carbon system
- 3 Increase the reuse rate of hazardous waste, and enhance waste recycling and reuse rates
- 4 Increase the recycling volume of waste sulfuric acid
- 5 Install smart meters for high-energy-consuming equipment
- 6 Prioritize the purchase of energy-saving products when replacing old equipment
- 7 Continue implementing various energy-saving and carbon reduction projects





Reduce Pollution Emissions

- 1 Establish a carbon verification platform to monitor the carbon emission status of each machine
- 2 Introduce smart manufacturing systems to optimize energy smart integration
- 3 Install equipment to reduce fluorinated gas emissions at the process end to increase greenhouse gas reduction
- 4 Implement various projects aimed at reducing pollutant emissions



Develop Green Products

- 1 Adopt carbon reduction concepts in the product design phase, with volume or power consumption lower than the previous generation of products
- 2 Set overall carbon footprint reduction targets for green product production

Three Major Environmental Protection Strategies and Actions in 2024		
Cherish Resources	Reduce Pollution Emissions	Develop Green Products
Expected Objectives		
<div>Nuvoton Taiwan</div> <div>Reduced water usage by 2.7% compared to 2023 water withdrawal (0.03 million liters/day)</div> <div><div>① Reduction in water consumption for local scrubber systems</div><div>② Increase the recovery of wastewater regenerated from pure water system</div></div>	<div>Nuvoton Taiwan</div> <div><div>① Reduce volatile organic compound (VOC) emissions (Replacement of No.2 volatile organic compound treatment equipment, processing efficiency > 90%)</div><div>② Reduce acid pollutant (HF) emissions by 80% (Add a new scrubber)</div><div>③ Enhance waste recycling with a reuse rate > 75%</div></div>	<div>Nuvoton Taiwan</div> <div><div>① Reduce Scope 1 greenhouse gas (PFCs) emissions by 17%</div><div>② Reduce Scope 2 annual electricity consumption by 2% compared to 2023</div></div>
<div>Nuvoton Japan</div> <div>Convert waste materials (mixed waste, waste oil, waste plastic, scrapped equipment) into valuable resources</div>	<div>① Inorganic sludge (CaF2 resource recycling) reuse</div> <div>② Change waste landfill assessment to reuse or incineration</div>	
Achievements		
<div>Nuvoton Taiwan</div> <div><div>✔ Achieve a 3.7% reduction in water consumption compared to 2023 (Actual consumption in 2023: 1.095 million liters/day)</div><div><div>① Save 0.0161 million liters/day (5.9 million liters/year)</div><div>② Save 0.0246 million liters/day (9 million liters/year)</div></div></div>	<div>Nuvoton Taiwan</div> <div><div>✔ Processing efficiency 96.1%</div><div>✔ Reduce acidic pollutant (HF) emissions by 99.3%</div><div>✔ Reuse rate 75.4%</div></div>	<div>Nuvoton Taiwan</div> <div><div>✔ Reduce by 31%</div><div>☐ Reduce annual consumption by 0.8%</div></div>
<div>Nuvoton Japan</div> <div>✔ Reduce waste by 3.92 tons/year</div>		

4.1

Climate Change

Environmental Management Policies and Goals

Nuvoton adopts “Cherish Resources,” “Reduce Pollution Emissions,” and “Develop Green Products” as the three focuses of its environmental protection strategy to gradually move towards a low-carbon transition. By taking concrete actions to mitigate environmental pollution risks in the production process and adhering to environmental regulations and relevant international standards, Nuvoton continues to fulfill its commitment to “becoming a sustainable green enterprise.” Nuvoton has established an environmental management system (ISO 14001) to promote environmental management policies and has formed an environmental protection committee to regularly review topics of stakeholder concern, regulatory compliance, and continuous environmental improvement plans.

Under the Environmental Protection Committee, specific task forces develop reduction targets and policies for major environmental topics and implement various energy-saving policies to achieve reduction goals. Starting from 2023, Nuvoton has been continuing to promote communication meetings between its two major production entities, Nuvoton Taiwan and Nuvoton Japan, including setting common goals, sharing energy-saving and carbon reduction plans, and initiating carbon footprint verification in the supply chain to require suppliers to reduce carbon emissions, thereby achieving global targets.

Nuvoton was awarded the “Asia-Pacific Climate Leaders 2024” by the Financial Times and the International Research Institute Statista in 2024. This accolade not only reflects Nuvoton’s commitment to environmental protection in response to climate change but also highlights its leadership position globally. We look forward to continuing to drive the green transformation of the industry in the future and contributing to the realization of global climate goals.

Highlights Section

Nuvoton Japan’s 2024 Initiatives for Promoting Green Transformation

- 1 Join the "GX League" initiated by the Japanese government:** The "GX League" is an initiative launched by Japan's Ministry of Economy, Trade and Industry (METI) in 2023, aimed at achieving carbon neutrality and promoting green transformation in Japan. This initiative also involves the establishment of a carbon credit trading market in Japan. The GX League creates mechanisms for participating enterprises to support investments related to green transformation, playing a leadership role in the global process of achieving carbon neutrality.
- 2 Transportation modes for product delivery are moving towards decarbonization:** Nuvoton Japan, which previously transported products by truck between Nagaokakyo City and three plants in the Hokuriku region, has shifted some transport nodes to rail transportation starting October 2024. The Company estimates that this shift in transportation patterns could reduce emissions by 114 t-CO₂e/year, accounting for about 25% of the CO₂ generated by Nuvoton Japan in domestic logistics.

Biodiversity

Nuvoton Taiwan, being part of the semiconductor manufacturing industry, is not highly dependent on or impactful to natural resources. However, it actively responds to the long-term goal 15 of the “Biodiversity Framework,” initiating conservation actions for local trees and butterflies around its operational sites in the cities and counties where it operates. To achieve the widespread perpetuation of biodiversity sustainability literacy, we participated in the Biodiversity Sasakia Charonda Conservation Project under the Hsinchu Branch of the Forestry and Nature Conservation Agency, Ministry of Agriculture. Through the cooperation with the Butterfly Conservation Society of Taiwan and National Yunlin University of Science and Technology, and with the assistance of Taiwan Biodiversity Research Institute of the Ministry of Agriculture, we carried out a biodiversity conservation plan. Starting from October 2024, we have invested in supporting preliminary actions such as natural habitat surveys and monitoring the forest form of hackberry, the only food source for this butterfly species, using remote sensing technology. The coverage area is approximately 10 hectares, and it is expected to produce images and distribution maps of hackberry during specific growth periods in the region. By focusing on habitat restoration, the larvae



of Sasakia Charonda will have a stable food source, providing an opportunity for Wufeng Township in Hsinchu to become an ecological restoration base for Sasakia Charonda. This initiative also serves as a response to the social responsibility of the relevant authorities and stakeholders in the county and city where the plant is located. We establish partnerships with local patrol teams to collaborate on forest management and nature conservation efforts.

In addition, Nuvoton Taiwan carries out environmental education training in 2024, inviting employees and their families to participate in the Hengshan Dashanbei Protection of the Rana Sauteri campaign, combining community volunteer activities with environmental education to learn about habitat conservation knowledge, the breeding population dynamics and egg-laying location selection of the endangered species Rana Sauteri. A total of 29 people participated.

Nuvoton continues to support biodiversity and is committed to reducing environmental impact. These efforts not only demonstrate the Company’s commitment to ecological protection but also reflect our emphasis on biodiversity. Nuvoton will continue to cooperate with relevant organizations and, through exchanges between industry, government, academia, and research units, actively participate in various environmental protection activities. Nuvoton will also continuously evaluate various projects released by the Forestry and Nature Conservation Agency and plan to reduce environmental footprints and minimize environmental impact from the design phase in local projects. We aim to contribute to the friendly ecological environment of the Earth. At the same time, environmental regulations will be firmly followed to ensure that the Company’s activities do not impose a negative impact on the environment. We will actively practice corporate social responsibility and make unremitting efforts to create a better future. In addition, Nuvoton will promote TNFD to further strengthen our commitment and responsibility in biodiversity and natural resource conservation.



Nuvoton Taiwan 2024 Environmental Management Targets and Achievements

Item	2024	2024 Reduction Target	2024 Actual Reduction
Electricity	71,246 MWh	Reduction of 1,487 MWh/year	<input type="checkbox"/> Reduction of 1,163 MWh/year
Greenhouse gases (Scopes 1 and 2)	55,743 tons of CO ₂ e	10% reduction in 2024 compared to 2023	<input checked="" type="checkbox"/> Actual reduction of 14.5%
Waste volume	870 tons/year, reuse rate 75.4%	Reuse rate 75%	<input checked="" type="checkbox"/> Reuse rate 75.4%
Total water withdrawal	424 million liters	11 million liters/year	<input checked="" type="checkbox"/> Reduction of 14.9 million liters/year

Nuvoton Japan 2024 Environmental Management Targets and Achievements

Item	2024	2024 Reduction Target	2024 Actual Reduction
Electricity	112,931 MWh	Reduction of 7% compared to 2023	<input checked="" type="checkbox"/> Reduction of 11% compared to 2023
Greenhouse gases (Scopes 1 and 2)	67,385 tons of CO ₂ e	Reduction of 8% compared to 2023	<input checked="" type="checkbox"/> Reduction of 14% compared to 2023
Waste volume	2,023 tons/year	-	<input checked="" type="checkbox"/> Reduction of 274 tons compared to 2023
Total water withdrawal	3,510 million liters	-	<input checked="" type="checkbox"/> Reduction of 493 million liters compared to 2023

Management System	Year Implemented	Year Passed
ISO 14001 Environmental Management Systems	2008 Nuvoton Taiwan 2009 Nuvoton Japan	2024
ISO 14064-1 Organizational Greenhouse Gas Emissions	2009 Nuvoton Taiwan 2024 Nuvoton Japan	2024
ISO 14067 Carbon Footprint Verification	2022 Nuvoton Taiwan 2025 Nuvoton Japan	2024 Expected to obtain certification by 2026 ¹
ISO 45001 Occupational Health and Safety Management Systems	2008 Nuvoton Taiwan 2009 Nuvoton Japan	2024
ISO 50001 Energy Management System	2023 Nuvoton Taiwan 2024 Nuvoton Japan	2024 Expected to obtain certification by 2025

■ Nuvoton Taiwan ■ Nuvoton Japan ■ Nuvoton Taiwan + Nuvoton Japan

1 Priority will be given to products with high customer demand for implementation.



Climate-Related Financial Disclosures

According to the “2024 Global Risks Report” published by the World Economic Forum (WEF), extreme weather and climate action failure have been identified as mid- to long-term focal points. Since the Paris Agreement set the goal to limit global warming to 1.5 °C , governments around the world have successively declared net carbon zero targets and actively formulated regulations to strengthen climate change responses. Addressing the impacts of climate change has become a global issue that requires joint efforts. Nuvoton understands the importance of the interactive impact of climate change on corporate sustainable operations and has adopted the risk management methods recommended by the Task Force on Climate-related Financial Disclosures (TCFD). This involves identifying significant risks and opportunities to operations based on the four core elements: “Governance,” “Strategy,” “Risk Management,” and “Metrics and Targets.” Nuvoton promotes various climate change mitigation and adaptation actions to continuously reduce risks, enhance resilience, and create opportunities for sustainable development.



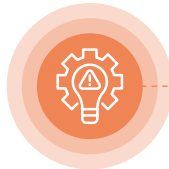
Risk Identification

Every year, based on the climate risks and opportunities announced by the TCFD, and referencing climate-related risks and opportunities mentioned in peer sustainability reports while considering international trends, the Company compiles climate risks and opportunities related to its operations and business.



Risk Assessment

Evaluate the impact of each climate risk and opportunity on the Company’s development strategy and finances, serving as the basis for judging the degree of financial impact on planning



Risk Treatment

After identifying significant climate risks and opportunities, control measures will be formulated for these items to achieve a reduction in the likelihood of risk occurrence and the degree of impact on the Company.

The types of response strategies adopted by the Company include:




- ① Risk avoidance: Cease activities that generate risks
- ② Risk reduction: Reduce the likelihood and impact of risk occurrence
- ③ Risk transfer: Transfer the loss when the risk occurs
- ④ Risk acceptance: Accept the loss caused during the occurrence of the risk





Risk Monitoring

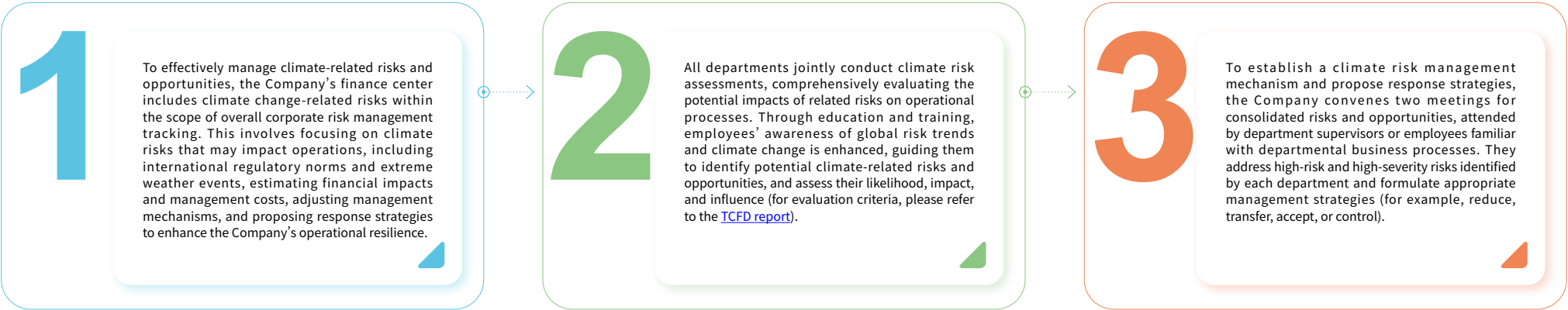
The Company compiles the results of risk identification, significant risks and opportunities judged by risk assessment, and the response strategies formulated by risk treatment, and reports them to the Company’s Sustainability Development Committee as the basis for formulating overall climate risk and opportunity policies, as well as for setting monitoring indicators and targets.

Nuvoton Climate Change Management Framework TCFD

Aspect	Strategy and Actions	2024 Implementation Status	Related Chapter	Page Number
 <p>Governance</p>	<ul style="list-style-type: none"> ➤ The Board of Directors is the highest supervisory unit for climate change management, responsible for reviewing annual risk management reports, implementation reports, and audit reports to ensure the effective implementation of climate-related risk management systems. ➤ The Sustainability Development Committee is responsible for implementing and managing climate change risks and opportunities, reporting annually to the Board of Directors on corporate governance and sustainability operational risk topics (including climate change issues), risk assessments, and control measures. The Board makes decisions on important issues. ➤ The Finance Center is responsible for identifying and assessing climate change risks and opportunities, regularly organizing climate change discussion meetings, and convening the risk management team to identify physical risks, transition risks, and opportunities related to climate change. They guide the proposal of corresponding improvement measures and targets. 	<ul style="list-style-type: none"> ➤ The Sustainability Development Committee reports annually to the Board of Directors on company topics related to climate change, including carbon emissions, water resources, power supply risks, natural disasters, and regulations. ➤ The Chairman of the Sustainability Development Committee reports quarterly to the Board of Directors on greenhouse gas emissions, reduction measures in various scopes, and related environmental issues and activities. 	<p>1.3 Governance for Sustainable Development</p> <p>3.3.3 Risk Management</p>	<p>013</p> <p>064</p>
 <p>Strategy</p>	<ul style="list-style-type: none"> ➤ Identify short-, mid-, and long-term climate-related risks and opportunities based on the TCFD framework (defining management periods: short-term: 2025, mid-term and long-term: 2030) ➤ Actively develop solutions to reduce the operational and financial impacts caused by climate change, aiming to enhance organizational climate resilience ➤ Introduce scenario analysis to understand the impact of climate change on Nuvoton 	<ul style="list-style-type: none"> ➤ Each unit identifies the results of climate risks and opportunities ➤ Gradually introduce scenario analysis in 2023 to identify the impact of climate change on Nuvoton 	<p>4.1 Climate Change</p>	<p>085</p>
 <p>Risk management</p>	<ul style="list-style-type: none"> ➤ Identify climate change risks and opportunities following the TCFD framework ➤ Plan and implement related response plans based on the results of climate risk identification ➤ Incorporate climate risk identification and assessment into the Company's risk management process 	<ul style="list-style-type: none"> ➤ Evaluate the financial qualitative impact of significant climate-related risks and opportunities identified by each unit ➤ Use processes such as identification, assessment, treatment, and monitoring to manage potential climate risks 	<p>3.3.3 Risk Management</p> <p>4.1 Climate Change</p>	<p>064</p> <p>085</p>

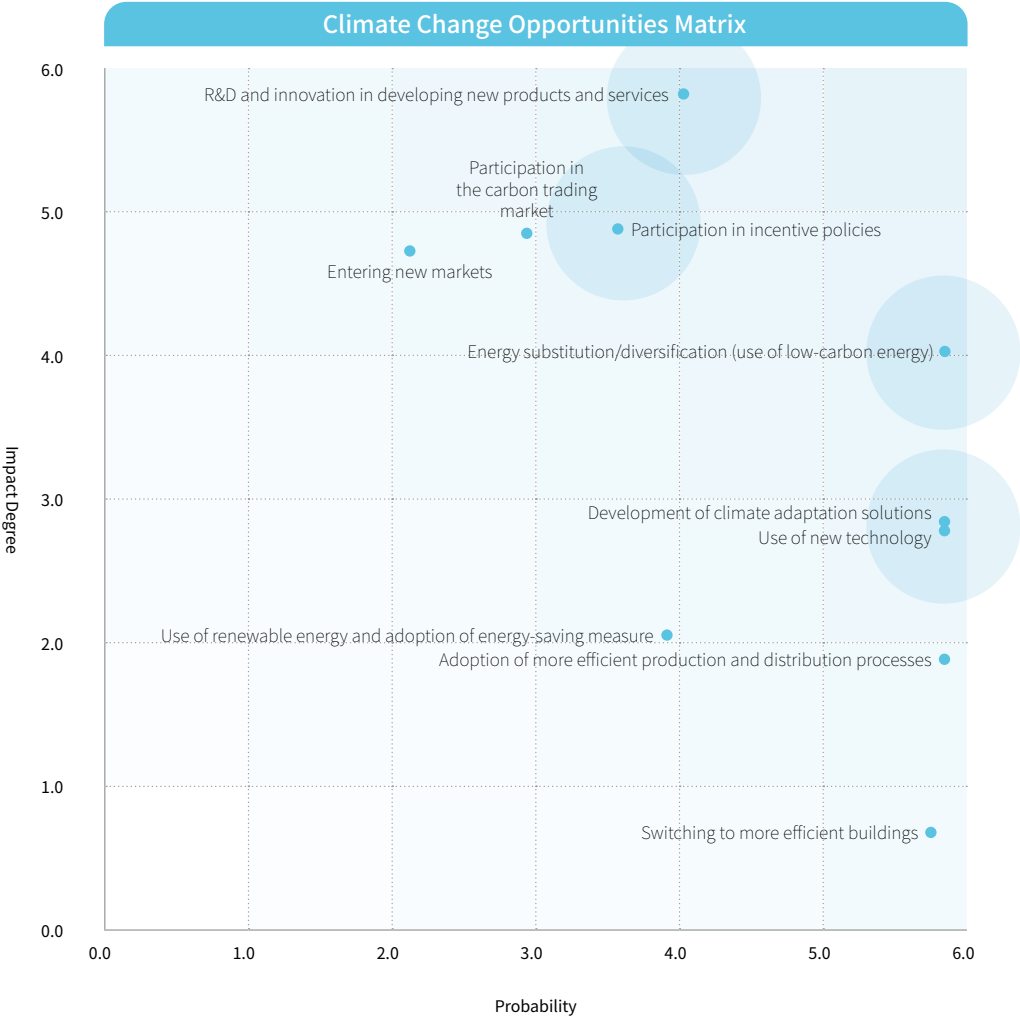
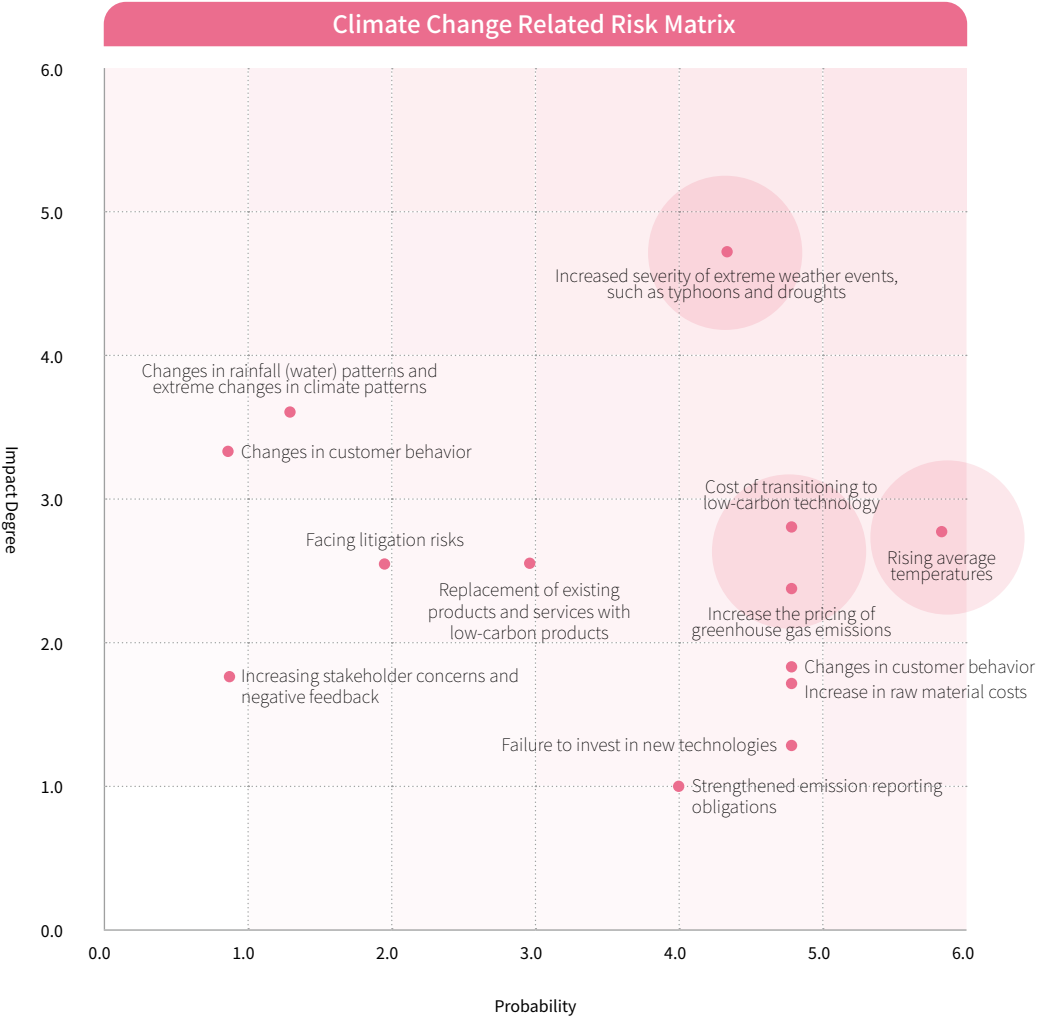
Aspect	Strategy and Actions	2024 Implementation Status	Related Chapter	Page Number
<div><p>Metrics and targets</p></div> 	<ul style="list-style-type: none">Set climate change-related management indicatorsDisclose greenhouse gas emissions and assess impactSet climate change management targets and review the achievement and performance of these targets	<p>In 2024, the following future targets for risks were set:</p> <ul style="list-style-type: none">Promote water reduction: Reduce water consumption by 10% by 2030 compared to the 2021 baseline yearDigital transformation: Reduce labor costs for product development through digital transformationOn the basis of the 2021 baseline year, Nuvoton's global Scope 1 greenhouse gas emissions will be reduced by >73% by 2025 and >77% by 2030.By 2026, complete the establishment of a carbon accounting platform for Nuvoton Taiwan: Create a carbon accounting system for each product through internal carbon emissions statisticsNuvoton Taiwan supplier greenhouse gas emission management: Establish and collect baseline greenhouse gas emissions and reduction targets from major suppliers, aiming for a 15% reduction by 2030 compared to the 2021 baseline yearUse of natural gas boilers and local scrubber for process exhaust gas treatment: Energy savings, including an electricity saving of 220kWh/year and the installation of 2 process exhaust gas treatment devices using natural gas. In 2025, it is planned to install another exhaust gas treatment device and one natural gas boiler to replace the electric boiler.Increase energy-saving equipment: Replace pumps and chillers with energy-saving ones and take other measures to reduce greenhouse gas emissions, with a target of 1.4% reduction compared to the 2021 baseline yearDiverse energy use: Achieve 1.43% of total electricity consumption from solar power (Taiwan plant)Monitor government incentive policies: Continuously monitor government incentive policies and inform relevant departments of specific details to evaluate and utilize these incentivesObtain and implement third-party certifications including ISO 14064, ISO 50001, and ISO 22301 to establish a BCP/BCM system, thereby enhancing Nuvoton's operational resilience: Nuvoton Japan plans to achieve ISO 50001 certification by 2025.For more details, please refer to TCFD Report "Climate Change-related Metrics and Targets."	<p>1.4 Analysis of Material Topic and Stakeholder Communication</p> <p>4.1 Climate Change</p>	<p>014</p> <p>085</p>

Climate Change Related Risk and Opportunity Identification Process



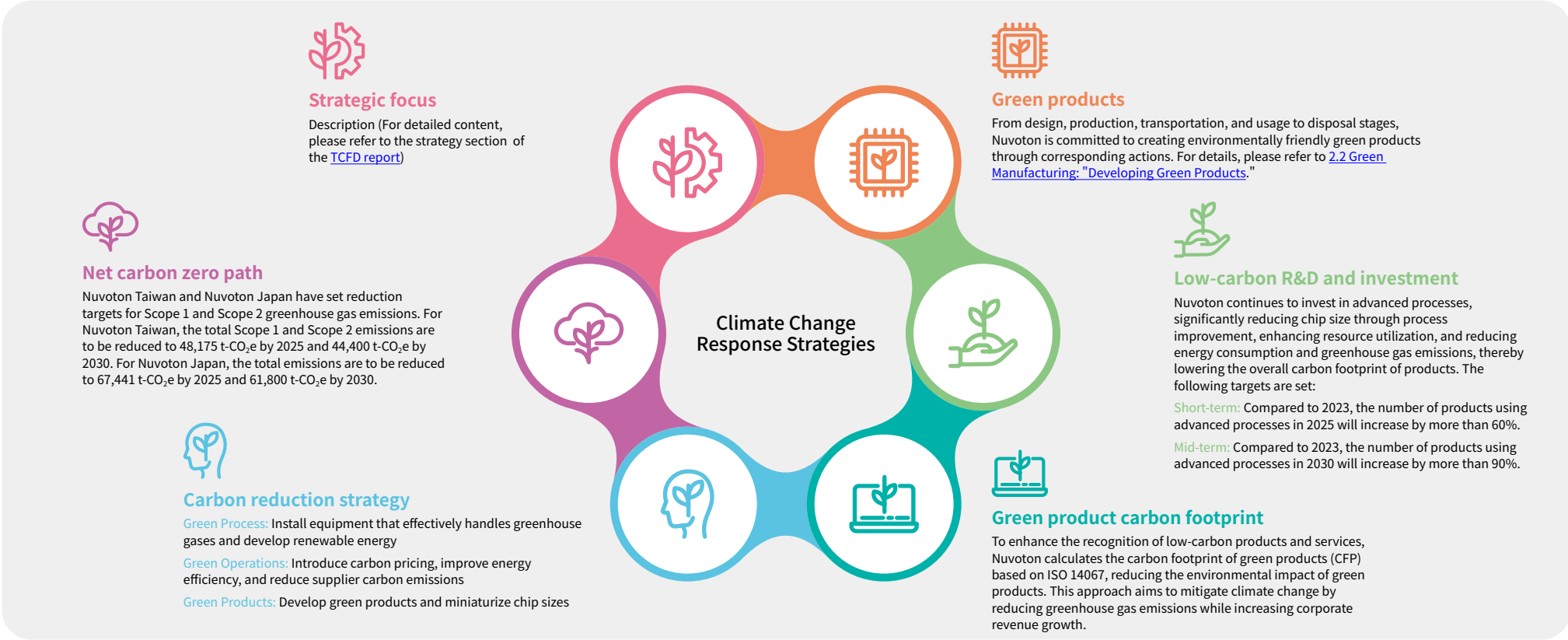
Process	Tasks	Description
1 Collection	Collect a list of climate change risks/opportunities	Identify relevant risks and opportunities through scenario simulations and internal and external information
2 Identification ¹	Hold a TCFD workshop	Each department evaluates the climate change risk and opportunity factors with the greatest impact on their business
	Summarize identification results	The Finance Center integrates climate change risk and opportunity factors related to each department's business
3 Materiality identification	Climate change risk/opportunity matrix	Calculate the likelihood and impact of climate change risks and opportunities, and create a matrix
4 Response strategies and financial impact	Formulate response strategies	The responsible unit formulates strategies to respond to significant climate risks and opportunities.
	Calculate financial impact	The responsible unit calculates the financial impact and response costs of risks/opportunities.
	Set metrics and targets	The responsible unit sets corresponding metrics and targets to evaluate the implementation of related response strategies.
	Climate change management policies and related work	The Sustainability Development Committee regularly tracks implementation status and periodically reports to the Board of Directors as a reference for performance tracking.

¹ Nuvoton follows the TCFD guidelines and references four climate change scenarios to identify climate-related risks and opportunities. Transition risks and opportunities use Taiwan's Nationally Determined Contribution (NDC) and IEA NZE 2050; physical risk scenarios are assessed using the global warming scenarios SSP 3-7.0 and SSP 5-8.5 from the IPCC Sixth Assessment Report to develop response strategies.





Climate Change Response Strategies

To address the risks and opportunities brought by extreme climate, Nuvoton, with the vision of being a "Hidden Champion In Providing Sustainable Semiconductors to Enrich Human Life," actively launches various carbon reduction actions and establishes greenhouse gas reduction targets within the group. The Company forms an Environmental Sustainability task force to build a green low-carbon operating model, and adopts continuous technological innovation and R&D capabilities to enhance the green manufacturing process (green semiconductor technology) and improve green products. For more details, please refer to the [TCFD report](#) "3. Climate Change Strategy."




Identification and Response to Climate Risks and Opportunities

Nuvoton identifies climate risks/opportunities for regions (Taiwan and Japan), categorizing potential financial or operational impacts and formulating responses for each risk/opportunity.

Risk Aspects	Category	Risk Type	Occurrence Time ¹	Risk Description	Potential Financial or Operational Impact	Nuvoton Response
 Transition risks	Technology	Cost of transitioning to low-carbon technology	Short-, mid- and long-term	Developing low-carbon products will increase R&D and production costs, including additional R&D expenses, process conversion, equipment upgrades, and personnel training. Immature technology may lead to additional operational expenses, and different energy efficiency standards across countries require product diversification, further increasing costs. If low-carbon products fail to meet customer expectations, revenue may decrease. In addition, low-carbon operations, such as using electric vehicles and energy-saving designs, also increase costs. Carbon taxes increase raw material costs and operational expenses.	<ul style="list-style-type: none"> Increased operational Decreased revenue Increased expenses 	Evaluate market demand, formulate product strategies, and ensure product design aligns with consumer preferences to address the low-carbon transition. Improve design and production efficiency through digital transformation and AI technology, while enhancing supply chain management to increase resilience. For capital allocation, as capital expenditures for low-carbon transition increase, it may be necessary to make timely adjustments, and develop financing plans to support the required investments for the transition. Response cost: 180 million
	Policies and regulations	Increase in greenhouse gas emissions pricing	Short-term	Carbon taxes increase operating costs for enterprises, possibly requiring higher product prices, which can affect sales. In response to greenhouse gas policies, low-carbon raw materials and processes increase procurement costs. The global supply chain faces different climate policies in various countries, increasing supply chain uncertainty and risk.	<ul style="list-style-type: none"> Increased operational expenses Decreased revenue 	Increase investment in low-carbon equipment to reduce greenhouse gas emissions. At the same time, enhance supply chain resilience through diversification and sourcing alternative raw materials to reduce raw material cost risks, and establish stable supply chain relationships to withstand price fluctuations. Response cost: 402 million
 Physical risks	Immediate	Increased severity of extreme weather events, such as typhoons and droughts	Short-term	Drought-induced water restrictions lead to decreased factory capacity, affecting revenue, and necessitating water conservation measures or the search for alternative water sources, thereby increasing costs. Raw material supply is affected, increasing procurement costs, and domestic water supply in the factory area is limited, potentially suspending some services. Extreme weather may damage equipment, raising maintenance and operational expenses, and supply chain disruptions further impact revenue, potentially eroding customer trust and investment willingness.	<ul style="list-style-type: none"> Increased operational expenses Decreased revenue Decreased opportunities to obtain capital 	Add water storage facilities, enhance the efficiency of process water treatment facilities, and increase water recovery rates to improve drought response capabilities. Strengthen supply chain management, regularly assess suppliers vulnerable to climate impacts, and enhance their resilience. Utilize climate monitoring technology for early warning, improve the durability of buildings and infrastructure, and ensure business continuity to enhance operational resilience. Response cost: 281 million
	Long-term	Rising average temperatures	Short-, mid- and long-term	Rising temperatures increase health and safety risks, such as heat stroke and infectious diseases, leading to higher labor costs and product price fluctuations. At the same time, high summer temperatures increase air conditioning electricity consumption, leading to higher operational expenses.	<ul style="list-style-type: none"> Increased operational expenses 	Increase investment to enhance the health and safety improvements of the operating environment, avoid health hazards, and reduce the risk of heat stroke among personnel. Response cost: 93 million

¹ Definition of time frames: Short-term: 2025, Mid-term and long-term: 2026-2030

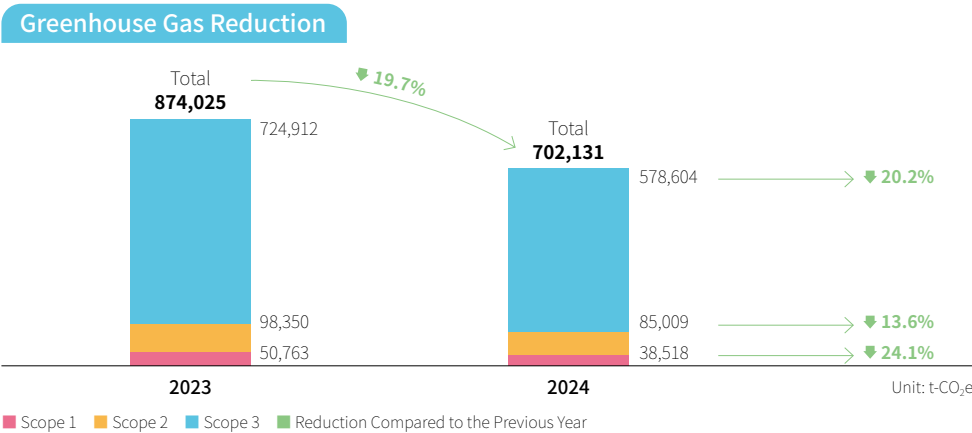
Risk Aspects	Category	Risk Type	Occurrence Time ¹	Opportunity Description	Potential Financial or Operational Impact	Nuvoton Response
 Opportunities	Resilience	Energy substitution/ diversification	Short-, mid- and long-term	Increase the use of diverse energy sources, such as solar and natural gas, to reduce operational interruption risks. Adopt low-carbon solutions to meet customers' low-carbon demands, enhance corporate image, and increase revenue. Reduce carbon emissions and related costs, and increase profitability by establishing a low-carbon supply chain and adopting mature low-carbon technologies.	<ul style="list-style-type: none"> Increased revenue Decreased operational expenses Decreased business expenses 	Install solar power systems and use natural gas equipment to reduce carbon emissions through diverse energy sources. Plan to increase the use of renewable energy and strengthen carbon management, including providing customers with carbon footprint reports and adding energy-saving devices. Achieve net carbon zero through carbon reduction efforts and purchasing carbon offsets, increasing customer trust
	Products and services	R&D and innovation in developing new products and services	Short-, Mid- and Long-term	Develop low-carbon products to enhance market competitiveness and revenue, meeting the increasing demand for energy-efficient and environmentally friendly products. Enter new markets, increase sales through the diversification of low-carbon products and technological innovation, and enhance corporate reputation and sustainability image. Additionally, the development of low-carbon technologies helps reduce production costs, especially in the automotive and industrial sectors.	<ul style="list-style-type: none"> Increased operating income Decreased operational expenses 	Increase investment in R&D and innovation, focusing on the development of low-carbon products and improving energy efficiency. Collaborate with suppliers to choose low-carbon raw materials, enhance the environmental standards of products and the supply chain, and meet market demand for low-carbon products. Increase the visibility of low-carbon products by expanding sales channels and strengthening marketing campaigns, adhere to sustainability principles, and enhance brand image
	Market	Participation in incentive policies	Short-, mid- and long-term	By reducing greenhouse gas emissions and promoting low-carbon products, the organization can receive government subsidies and tax incentives. Additionally, companies that meet climate change action standards are more likely to receive preferential financing from financial institutions, reducing financing costs while enhancing corporate image and reputation.	<ul style="list-style-type: none"> Reduced operating costs Increased opportunities to obtain capital 	Continuously track and plan to apply for government incentive policies, formulate and implement carbon reduction targets and strategies. Conduct greenhouse gas inventories, communicate with stakeholders to reach consensus, and identify and manage sustainability risks, meeting financial institution assessment standards to strengthen sustainability management plans
	Products and services	Development of climate adaptation solutions	Short-, mid- and long-term	Strengthen operational and supply chain resilience by introducing business continuity plans (BCP/BCM), prioritizing the production of key products to ensure stable supply. This helps enhance customer trust and reputation, thereby increasing revenue. Additionally, systematically managing supplier and customer relationships further reduces operational expenses.	<ul style="list-style-type: none"> Increased operating income Reduced operating costs 	Establish BCP/BCM systems, select suppliers that meet standards, and increase development and evaluation costs. Introduce and obtain ISO 14064, ISO 50001 and ISO 22301 certifications, increasing maintenance and IT construction costs, and investing necessary IT and human resources

¹ Definition of time frames: Short-term: 2025, Mid-term and long-term: 2026-2030

4.2 Greenhouse Gas Management

Nuvoton, based on its safety, health, and environmental policy, continues to promote the reduction of energy resource usage and carbon reduction measures. Following the introduction of carbon fees, this will further enhance the economic benefit estimates of related carbon reduction efforts, thereby enhancing the feasibility of these measures. Therefore, Nuvoton predicts that global site greenhouse gas emissions will, compared to 2021, decrease by 48% in 2025 and by 52% in 2030.

In terms of short-term performance, Nuvoton implemented a number of measures to reduce greenhouse gas emissions in 2024 (For corresponding power saving measures, please refer to [4.3.1 Energy Management](#)). Consequently, according to third-party verification, the total Scope 1 and Scope 2 greenhouse gas emissions for Nuvoton in 2024 were 123,527 t-CO₂e, a reduction of 25,586 t-CO₂e (17.2%) compared to 2023. The total Scope 1 emissions in 2024 were 38,518 t-CO₂e; the total Scope 2 emissions were 85,009 t-CO₂e; the total Scope 3 emissions were 578,604 t-CO₂e (For other data, please refer to [Appendix 1: Environmental Data](#) and [Appendix 6: TWSE/TPEX-Listed Companies Climate-related Information](#)).



Nuvoton Taiwan

Since 2009, Nuvoton Taiwan has established a greenhouse gas inventory mechanism by following ISO 14064-1 greenhouse gas inventory standards and the “Guidelines for Greenhouse Gas Emissions Verification and Registration” issued by the Ministry of Environment, Executive Yuan. The Company regularly inventories Scope 1 and Scope 2 emissions within the wafer fab and obtains verification from third-party verification agencies.

The existing carbon verification system of Nuvoton is complete but labor-intensive. In order to conduct verification of carbon emissions more quickly, broadly, and accurately, the Company is currently building a carbon accounting system based on the Winbond system architecture and actual operational mode. It is estimated to begin operation in the first quarter of 2026 and can also align with the government’s carbon fee collection schedule. Once established, the system will assist the Company in effectively managing carbon data and promote data sharing across the upstream and downstream supply chains.

Nuvoton Japan

Since 2023, Nuvoton Japan has also obtained third-party verification following ISO 14064-1 standards, similar to Nuvoton Taiwan, to ensure the credibility and quality of inventory data and reports. Nuvoton Japan will conduct a carbon emission survey for suppliers from 2024 to early 2025 to prepare for ISO 14064-1 certification in 2025.

In terms of carbon data management, Nuvoton launched a greenhouse gas emissions management tool in 2023 to collect and visualize data from Scope 1, 2 and 3. Through this visual management tool, the emissions of Scope 1 in 2024 were 17,920 t-CO₂e and those of Scope 2 were 49,465t-CO₂e, achieving the goal of reducing the total emissions of Scope 1 and Scope 2 by 38% compared to 2021. To achieve the goal of reducing emissions by 40% in 2025 compared to 2021, Nuvoton Japan will continue to increase the use of green electricity, reduce Scope 2 carbon emissions by 2025, and set long-term goals to reduce Scope 3 carbon emissions, including encouraging suppliers to reduce their carbon footprint.

1 This bar chart summarizes the data of Nuvoton Taiwan, Nuvoton Japan and overseas subsidiaries. Scope 3 does not yet include overseas subsidiaries, thus the data represents the sum of Nuvoton Taiwan and Nuvoton Japan.

Carbon Reduction Initiatives

Nuvoton is actively involved in carbon reduction efforts, having been recognized for two consecutive years as one of Business Weekly’s “Top 100 Carbon Competitiveness” companies, and securing third place in carbon competitiveness within the highly competitive semiconductor industry. In terms of Scope 3, Nuvoton is actively promoting carbon emission management in its green supply chain and developing green products to provide superior solutions for environmental sustainability.

In October 2024, Nuvoton submitted its science-based carbon reduction targets to the Science Based Targets initiative (SBTi) and officially received certification in the first quarter of 2025 (March 28), declaring its commitment as a member of global climate action enterprises. Nuvoton pledges to adhere to the SBTi:



Using 2022 as the baseline year, Nuvoton aims to absolutely reduce Scope 1 and Scope 2 greenhouse gas emissions by **48.8%** by 2030, covering the carbon footprint generated by direct operations and energy use.



Using 2023 as the baseline year, Nuvoton aims to absolutely reduce Scope 3 carbon emissions by **25%** by 2030, focusing on emissions sources from supply chain procurement and product usage stages.

The rigorous review by SBTi underscores the group’s determination on the path of sustainable development, symbolizing that the carbon reduction targets are not only scientifically based but also aligned with the global climate goal of limiting temperature rise to no more than 1.5° C. Nuvoton globally will continue to increase the proportion of renewable energy use, enhance green product development and circular economy utilization, optimize supply chain management, and fully implement corporate ESG governance, contributing the group’s efforts to climate stability, human well-being, and biodiversity.



Vice President Kuang-Lun Lin, Chairman of the Sustainability Development Committee, attended the award ceremony on behalf of Nuvoton and accepted the award from Vice Premier Li-Chun Cheng of Executive Yuan for the efforts and achievements of all Nuvoton employees.

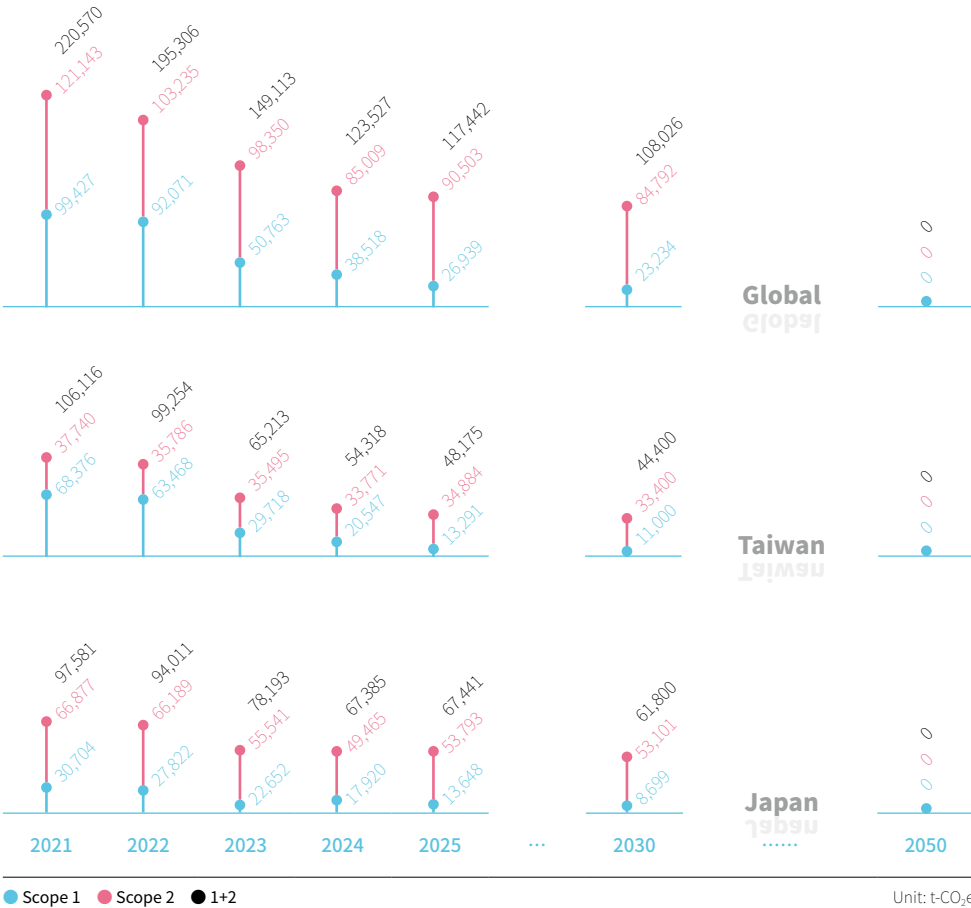
	Nuvoton Taiwan	Nuvoton Japan
 Scope 1	Since emissions from process gases account for more than 90% of the carbon emissions in this scope, the primary reduction target is to lower greenhouse gas emissions from the process by installing equipment to reduce fluorinated gas at the process end. By the end of 2024, a 77% reduction rate has been achieved, and the number of units will continue to expand, with the processing efficiency of the reduction equipment improved, and the reduction rate expected to reach 88% in 2030.	To improve energy efficiency and enhance the benefits of energy usage, coupled with the shift in supply demands, production capacity will be allocated to facilities with higher energy conversion rates. In addition, Nagaokakyo will phase out its gas-fired cogeneration system (CGS) since 2024 and replace its steam-powered absorption chiller units with high-efficiency electric chillers, thereby reducing the combined Scope 1 and Scope 2 emissions of the plant by 23%.
 Scope 2	In 2024, approximately 300 t-CO ₂ e was reduced compared to 2023. Meanwhile, we will continue to monitor the greenhouse gas emissions throughout the product lifecycle and conduct carbon footprint verification to understand the greenhouse gas emissions during the raw material and production stages of the product.	In the Nagaokakyo plant area, a large number of lighting fixtures have been converted to LED, reducing the Scope 2 emissions of this plant area by 7%. Other plant areas have also converted lighting fixtures to LED to save energy and upgraded other equipment to energy-saving devices, reducing overall Scope 2 emissions by 1.1%.

Unit: t-CO₂e

Nuvoton(Global) Net Carbon Zero Path Diagram ¹							
Scope 1	99,427	92,071	50,763	38,518	26,939	23,234	0
Scope 2	121,143	103,235	98,350	85,009	90,503	84,792	0
1+2	220,570	195,306	149,113	123,527	117,442	108,026	0

Nuvoton Taiwan Net Carbon Zero Path Diagram ¹							
Scope 1	68,376	63,468	29,718	20,547	13,291	11,000	0
Scope 2	37,740	35,786	35,495	33,771	34,884	33,400	0
1+2	106,116	99,254	65,213	54,318	48,175	44,400	0

Nuvoton Japan Net Carbon Zero Path Diagram ¹							
Scope 1	30,704	27,822	22,652	17,920	13,648	8,699	0
Scope 2	66,877	66,189	55,541	49,465	53,793	53,101	0
1+2	97,581	94,011	78,193	67,385	67,441	61,800	0
Year	2021	2022	2023	2024	2025	2030	2050



Note 1 This figure includes the emissions and estimates of Nuvoton and all its subsidiaries as reported in the consolidated financial statements.

Note 2 The values for period from 2025 to 2050 is an estimate.

Note 3 Greenhouse gas emissions are calculated using the operational control approach, and the calculation method is activity data * emission coefficient * GWP value. The emission coefficient of Nuvoton Taiwan refers to the emission coefficient announced by the Ministry of Environment of Taiwan in 2024, and the GWP value refers to IPCC AR5 (2013); Nuvoton Japan's emission coefficient refers to 2013 IPCC Guidelines for National Greenhouse Gas Inventories, the GWP value from 2021 to 2023 refers to the IPCC AR5 (2013), and the GWP value in 2024 refers to the IPCC AR6 (2021).

1 The data information here has been recompiled and the adjustment instructions compared with the previous year's report are detailed in [Appendix 3](#).

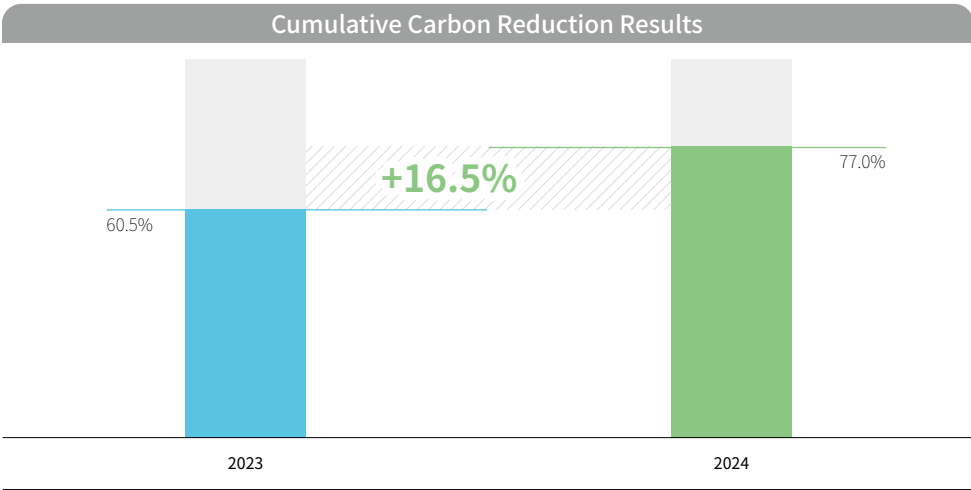
Scope 3 Emission Sources by Category in 2024

Unit: t-CO₂e

Emission sources	Nuvoton Taiwan	Nuvoton Japan
Purchased goods and services	111,741	271,196
Capital goods	837	11,646
Fuel- and energy-related activities (Not included in activities covered by the G4-EN3 indicator)	7,073	14,199
Upstream transportation and distribution	156	1,097
Waste generated in operational activities	90	45
Business travel	308	877
Employee commuting	887	441
Downstream transportation and distribution	2,956	146
Downstream leased assets	71	134,031
Investments	20,807	-
Total	144,926	433,678

Fluorinated greenhouse gas reduction

Nuvoton Taiwan has installed on-site burn scrubbers to treat exhaust gases from 54 reaction chambers, reducing the concentration of suspended particulate matter and the fluorinated greenhouse gas emissions. The two new scrubbers built in 2024 reduced carbon emissions by 17.2%. The annual treatment rate of perfluorinated compounds (PFCs) increased to 77%/year.



4.3 Energy Resource Management and Circular Economy

4.3.1 Energy Management


Electricity is the main source of energy consumption for Nuvoton. In 2024, renewable energy accounted for 1.36% of all energy types, and purchased electricity accounted for 95.24%¹ in Nuvoton Taiwan. To this end, Nuvoton has implemented the P-D-C-A (Plan-Do-Check-Action) mechanism, aiming to enhance energy use efficiency and increase the proportion of renewable energy usage. Various energy-saving and carbon-reduction projects have been actively launched, and the energy management system has been implemented. Additionally, Nuvoton has initiated a digital transformation plan, introducing smart manufacturing systems to optimize energy digital integration; and continues to support the procurement of energy-efficient products, optimizing equipment performance, striving to achieve energy-saving goals.

In 2023, Nuvoton Taiwan advanced its energy-saving and carbon reduction initiatives by setting up


solar renewable energy systems, achieving the installation of 8% of the contracted renewable energy capacity within the same year (with an installed capacity of 819 kW, generating 1 million kWh annually). In 2024, Nuvoton Taiwan’s total energy consumption decreased by 1.88% compared to the baseline year of 2021. Nuvoton Taiwan adopted the ISO 50001 Energy Management System in 2022 and achieved certification in 2023. In 2024, Nuvoton Japan’s energy consumption decreased by 30% compared to the baseline year of 2021. Nuvoton Japan adopted the ISO 50001 Energy Management System in 2024 to achieve visualized management of energy use and improve employees’ awareness of energy efficiency through company-wide efforts. In the same year, Nuvoton Japan procured solar power through a power purchase agreement, planning to supply electricity to the Arai plant starting from October 2025.

Key Energy-saving Measures in 2024


Nuvoton Taiwan




System supply load optimization
Optimize the high vacuum operation mode
saving
150,000
kWh/year



Prioritize energy-saving equipment when replacing old equipment
saving
593,000
kWh/year




Introduce AI control into the chilled water system
saving
200,000
kWh/year



Replace electric boilers with natural gas boilers
saving
220,000
kWh/year

Nuvoton Japan

- ▶ Sign an offsite **Power Purchase Agreement (PPA)**, securing long-term renewable energy procurement through solar power generation
- ▶ **Procurement of solar energy** for integration into the energy management system
- ▶ Plan to obtain **ISO 50001 certification by 2025**
- ▶ Prioritize **energy-efficient equipment** during equipment updates
- ▶ Procure **non-fossil fuel energy certificates** to strengthen a diversified energy strategy

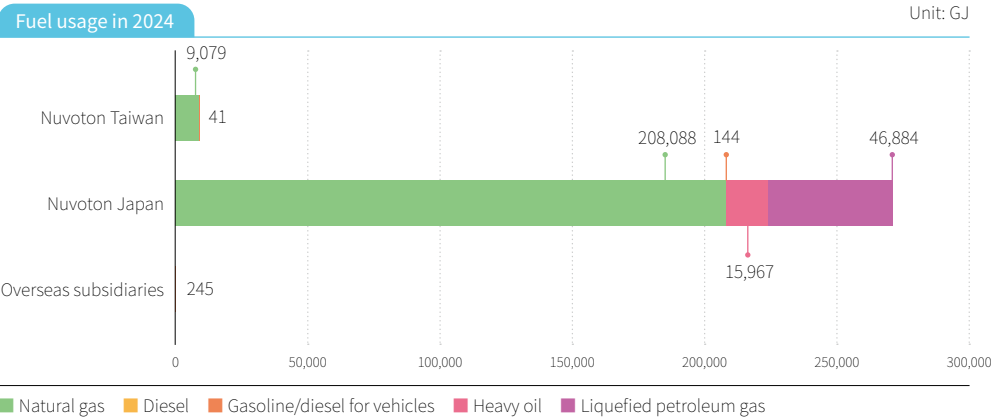
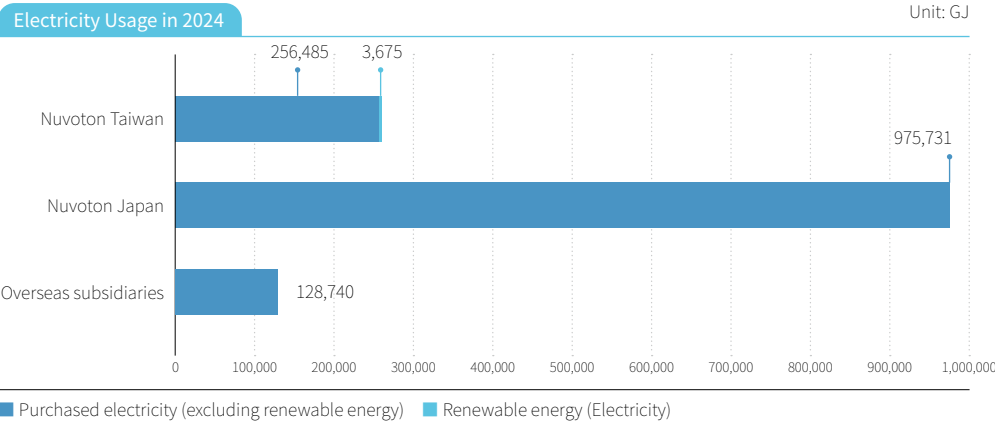


¹ In 2024, the types of energy used by Nuvoton Taiwan included purchased electricity, gasoline, diesel, natural gas, and renewable energy, totaling 269,280 GJ. Of this, renewable energy accounted for 3,675 GJ, with purchased electricity being the majority at 256,485GJ.

100

Energy Use		Unit: GJ			
Company	Item	2021	2022	2023	2024
Electricity Usage (GJ)					
Nuvoton Taiwan	Purchased electricity (excluding renewable energy)	266,926	260,259	258,670	256,485
Nuvoton Japan		1,364,330	1,318,419	1,098,307	975,731
Overseas subsidiaries		-	-	7,594	12,874
Nuvoton Taiwan	Renewable energy (Electricity)	0	0	446	3,675
Nuvoton Japan		-	-	-	0
Overseas subsidiaries		-	-	-	-
Nuvoton Taiwan	Subtotal of electricity	266,926	260,259	259,116	260,160
Nuvoton Japan		1,364,330	1,318,419	1,098,307	975,731
Overseas subsidiaries		-	-	7,594	128,740
Fuel usage (GJ)					
Nuvoton Taiwan	Natural gas	7,485	7,526	9,050	9,079
Nuvoton Japan		308,947	284,833	250,044	208,088
Overseas subsidiaries		-	-	-	0
Nuvoton Taiwan	Diesel	0	0	148	0
Nuvoton Japan		-	-	-	0
Overseas subsidiaries		-	-	-	0
Nuvoton Taiwan	Gasoline/diesel for vehicles	37	26	35	41
Nuvoton Japan		-	322	160	144
Overseas subsidiaries		-	-	35	245
Nuvoton Japan	Heavy oil	15,775	15,352	25,808	15,967
Nuvoton Japan	Liquefied petroleum gas	106,016	98,300	73,533	46,884
Energy Use (GJ)					
Nuvoton Taiwan	Total energy consumption	274,447	267,811	268,349	269,280
Nuvoton Japan		1,795,067	1,717,226	1,447,852	1,246,814
Overseas subsidiaries		-	-	7,629	13,119

Note 1 Energy use data has been converted into joules. Except for natural gas, where the heating value is provided by the supplier, the heating values for the other energy sources are based on the values announced by the Climate Change Administration, Ministry of Environment and the Energy Administration, Ministry of Economic Affairs. The following conversion values are used: 1 kWh of electricity = 860 kcal, 1 cubic meter of natural gas = 8,070 kcal, 1 liter of diesel = 8,642 kcal, 1 liter of gasoline = 7,609 kcal, 1 cal= 4.1868 j.



Note 2 The data information here has been recompiled and the adjustment instructions compared with the previous year's report are detailed in [Appendix 3](#).

Note 3 “-” in the table indicates that no relevant data is available for that year.

Energy Intensity

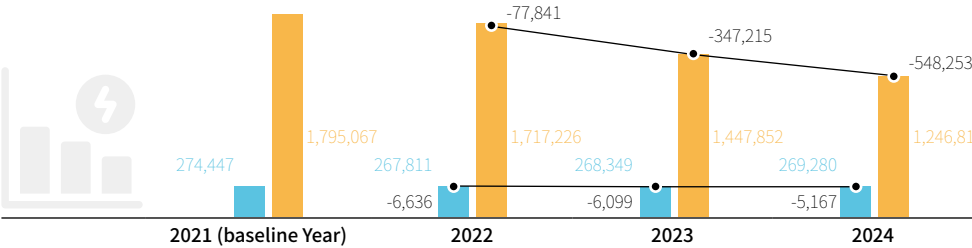
Company	Unit	2021	2022	2023	2024
Nuvoton Taiwan	GJ/layer-wafer mask	0.026	0.026	0.033	0.0289
	GJ/square cm of wafer	0.0025	0.0026	0.0032	0.0029
	GJ/million NT\$ ¹	18.8	13.7	14.1	14.1
	kWh/layer-wafer mask	7.02	7.11	8.93	7.66
	kWh/square cm of wafer	0.66	0.71	0.86	0.77
	kWh/million NT\$	5,078	3,704	3,769	3740
Nuvoton Japan ²	GJ/million NT\$	90	78	69	72
	kWh/million NT\$	7,895	6,905	6,082	6,490

Nuvoton's Energy-Saving Projects in 2024

Item	2024 Target	2024 Actual Achievements	Future Goals
Taiwan: Solar renewable energy	Solar photovoltaic planning for rooftops of Tainan buildings	Evaluated locations for solar photovoltaic installation	Installed capacity of Tainan building rooftop after evaluation in 2025: 200kWp (capable of generating 200,000 kWh/year)
Japan: Solar renewable energy	Introduction of solar power through Power Purchase Agreement (PPA)	Completion of solar power through Power Purchase Agreement (PPA)	Commencement of power supply to Arai plant in October 2025, with an estimated annual procurement of electricity generated from renewable energy sources of 6.94 million kWh

Total Energy Consumption (Internal) and Reduction³

Company/ Year	2021 (baseline Year)		2022		2023		2024	
	Energy Consumption	Energy Consumption	Energy Reduction	Energy Consumption	Energy Reduction	Energy Consumption	Energy Reduction	
Nuvoton Taiwan	274,447	267,811	-6,636	268,349	-6,099	269,280	-5,167	
Nuvoton Japan ⁶	1,795,067	1,717,226	-77,841	1,447,852	-347,215	1,246,814	-548,253	
Total	2,069,514	1,985,037	-84,477	1,716,201	-353,314	1,516,094	-553,420	



1 Energy Intensity = Energy Calorific Value/Revenue (based on Taiwan/Japan regional revenue)

2 Nuvoton Japan does not have wafer-related data. Due to the large number of wafer products, accurate calculations cannot be made. In the future, the Company will continue to study and confirm the calculation method.

3 Since overseas subsidiaries (except Nuvoton Japan) have not yet been included in the statistical scope for 2021, the total in this table only covers the data of Nuvoton Taiwan and Nuvoton Japan.

4 The data information here has been recompiled and the adjustment instructions compared with the previous year's report are detailed in [Appendix 3](#).

Consumption: ■ Nuvoton Taiwan ■ Nuvoton Japan - ● - Reduction

Intelligent Energy Management Planning and Implementation

In addition to implementing the ISO 50001 Energy Management System, Nuvoton enhances energy management by selecting energy-efficient equipment during equipment upgrades. To effectively manage energy use efficiency, it has been mandated that wafer fabrication plants achieve an annual electricity saving rate of more than 1% compared to the baseline year (2021). Starting in 2023, intelligent energy management has been implemented by gradually installing smart meters for high-consumption equipment in wafer fabrication plants. To effectively monitor equipment electricity consumption and improve energy-saving results, Nuvoton Taiwan collects and analyzes electricity consumption data for all equipment in the existing fab, focusing on representative equipment as key optimization targets:



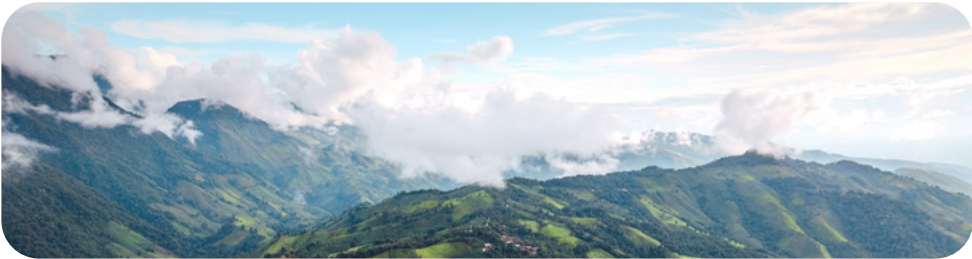
Implement a system for monitoring equipment electricity consumption

At present, the fab’s equipment is not equipped with meters, preventing real-time tracking of electricity consumption. To establish a baseline for equipment electricity consumption, which will serve as a foundation for future energy-saving initiatives, the project’s first phase includes the installation of power meters on 57 representative machines out of approximately 160 in the fab. This phase implements a data collection strategy that prioritizes major equipment while excluding minor ones.



Enhance the operational strategy of the chilled water system

The chilled water system accounts for the largest share of power consumption in the plant, approximately 20%. By integrating AI devices for real-time monitoring and analysis, and leveraging operational data learning alongside load forecasting, the system can automatically adjust to the optimal combination of operating parameters and devise equipment operation strategies. This approach is anticipated to yield an electricity-saving benefit of at least 1.5%.



Nuvoton’s Energy-saving Achievements in 2024

Nuvoton Taiwan	Electricity Saving (kWh/year)	Energy Saving (GJ/year)
Introduce AI control into the chilled water system	200,000	720
Replace 20W LED lights with 13W LED lights	18,396	66
Replace fluorescent lights with LED lights in the 2nd floor maintenance area	17,975	65
Replace electric boilers with natural gas boilers	220,000	792
Replace old pumps in production units	154,889	558
Upgrade production unit chillers to energy-efficient models	222,633	801
LM-1 phase out	55,000	198
Install energy-saving valves (pump outlet)	72,270	260
Optimize high vacuum in operation mode	149,650	539
Upgrade testing plant lighting to LED	44,080	159
Initiate energy saving project for parking canopy lighting	1,568	6
Introduce EPSON ink-jet printer	6,500	23

Total



1,162,961



4,187

1 The survey covers Nuvoton Taiwan and Nuvoton Japan. Energy savings are calculated at 3,600 joules per kilowatt-hour.

Nuvoton Japan	Electricity Saving (kWh/year)	Energy Saving (GJ/year)
Nagaokakyo, Uozu and Aria: replace with LED lights	1,092,142	9,436
Nagaokakyo, Arai: update air conditioning equipment	222,668	1,924
Uozu: reduce the number of air conditioners in operation	12,944	112
Arai: replace with variable frequency air conditioners	179,194	1,548

Total



1,506,948

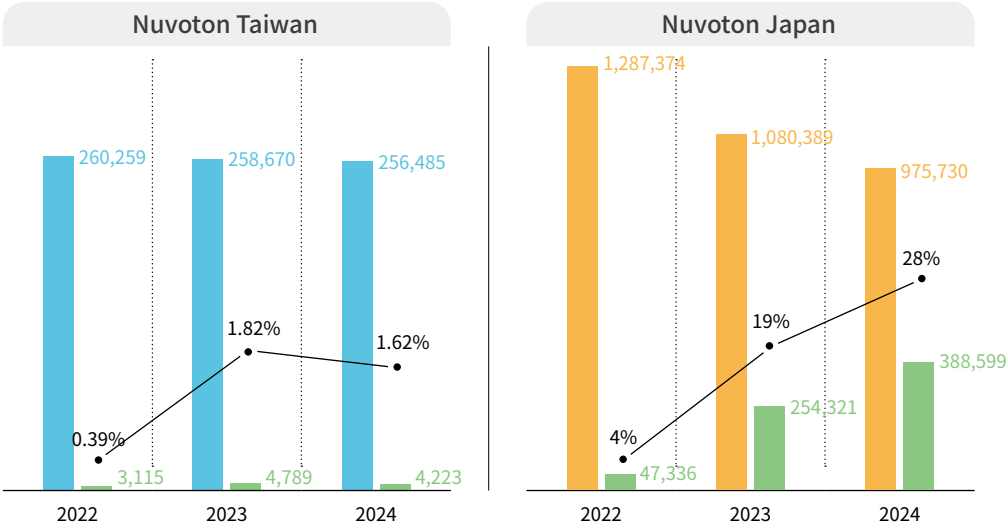


13,020

Electricity Saving Amount and Proportion Over the Past Three Years

Company	Item	Unit	2022	2023	2024
Nuvoton Taiwan	Electricity consumption	GJ	260,259	258,670	256,485
	Electricity saving amount	GJ	3,115	4,789	4,223
	Electricity saving proportion	%	0.39	1.82	1.62
Company	Item	Unit	2022	2023	2024
Nuvoton Japan	Electricity consumption	GJ	1,318,419	1,098,307	975,730
	Electricity saving amount	GJ	45,911	266,023	388,599
	Electricity saving proportion	%	3	19	28

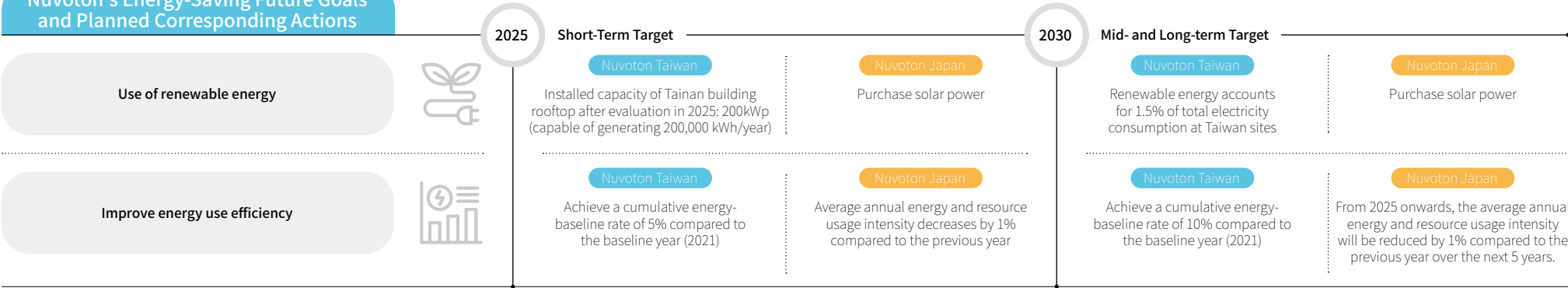
1 The survey scope covers Nuvoton Taiwan and Nuvoton Japan. Annual electricity saving rate = annual electricity saving amount / (annual electricity saving amount + annual electricity consumption) * 100%



■ Electricity Consumption - Nuvoton Taiwan ■ Electricity Consumption - Nuvoton Japan
■ Electricity Saved - ● - Electricity Saving Ratio (%)

1 The survey scope includes Nuvoton Taiwan and Nuvoton Japan. The annual electricity saving ratio is calculated as: Annual Electricity Saving Ratio = Annual Electricity Saved / (Annual Electricity Saved + Annual Electricity Consumption) × 100%

Nuvoton's Energy-Saving Future Goals and Planned Corresponding Actions



4.3.2 Water Resource Management

In 2024, Nuvoton Taiwan’s water source distribution is primarily composed of tap water provided by the water company (85%), with a minor portion consisting of recycled rainwater and air conditioning condensate used as secondary water (15%). The water recycling rate at the production site, calculated based on the water balance chart submitted to the Hsinchu Science Park Administration, stands at approximately 68% for the entire factory. Nuvoton Japan’s water sources include tap water (0.6%), industrial water (1.0%), and groundwater (98.0%). The two main strategic focuses for water conservation are prioritizing reduced usage at the source and recycling at the backend to minimize water resource consumption.

Nuvoton sets annual water usage targets and promotes related plans, regularly reviewing progress and benefits, and analyzing and improving items that do not meet targets. Regarding upstream impacts, Nuvoton Taiwan regularly inspects reservoir conditions monthly, and when the effective water volume falls to the warning level, an external water source search procedure will be initiated. Nuvoton Japan regularly monitors the well water levels to ensure stable water resource supply. Regarding downstream impacts, Nuvoton Taiwan constantly keep updated with the inclusion standards of the Science and Technology Management Bureau, continuously monitoring related discharge data within the plant, and the management bureau regularly dispatches personnel for water sampling audits to ensure that discharged wastewater meets requirements. Nuvoton Taiwan cooperated with government policies to implement water-saving measures, achieving a 3.7% reduction in water usage in 2024 compared to 2023. In 2024, Nuvoton Japan successfully reduced water consumption by 493 million liters, primarily through the Uozu plant’s initiatives to boost energy efficiency and maximize the advantages of energy utilization. Additionally, the shift in supply demand facilitated the reallocation of production capacity to facilities with superior energy conversion rates, leading to the cessation of production at fab-C of the Uozu plant in 2024, thereby accomplishing a 12.3% decrease in water consumption.

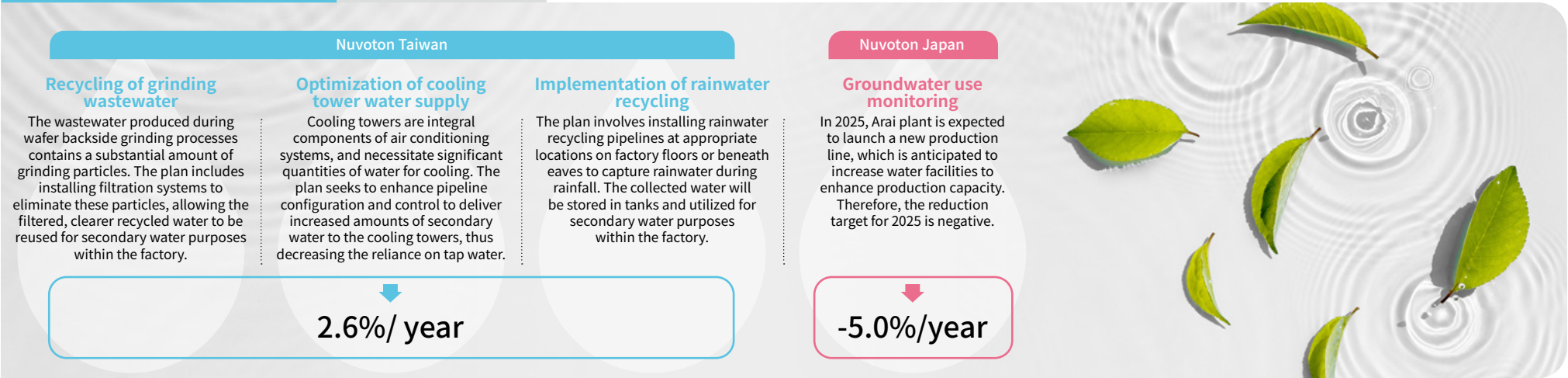
2024 Water Resource Reduction Benefits

Site	Nuvoton Taiwan	Nuvoton Japan
Water-saving Initiatives	Water savings	Water savings
2024 Water saving target	-2.8%/year compared to 2023	-5.0%/year compared to 2023
2024 Water-saving actions	<div>Local scrubber water reduction: Standardization of SCRs washing water, saving 5.9 million liters annually</div> <div>Increase recovery of pure water system regeneration wastewater: Increase the recovery of pure water system regeneration wastewater, saving 9 million liters</div> <div>To boost energy efficiency and maximize the advantages of energy utilization, while taking into account the changes in supply demand, production capacity has been assigned to facilities with superior energy conversion rates. Consequently, fab-C at the Uozu plant ceased production in 2024, leading to a reduction in water consumption.</div>	
2024 Water-saving volume (Million liters/year) ¹	A total of 14.9 million liters saved	A total of 493 million liters saved
2024 Water-saving reduction (%)	Actual 3.7 %/year	Actual 12.3 %/year

1 The statistical values are based on production of 360 days each year, excluding the time allocated for annual maintenance.



Water Resource Reduction Targets 2025 Reduction Target



Nuvoton’s main manufacturing and operational sites in Taiwan are located in the Hsinchu Science Park, and obtain water from the Baoshan Reservoir in Hsinchu. As per the “Aqueduct Water Risk Atlas” by the World Resources Institute (WRI), Nuvoton has assessed that its major production sites in both Taiwan and Japan have zero water withdrawal and consumption from areas with high or extremely high water stress. The Company does not use seawater. This suggests that the Company has a minimal impact on local water resources. Additionally, industrial and domestic wastewater produced by enterprises within the Hsinchu Science Park is collected via the sewage system and treated at the park’s wastewater treatment facility. In 2024, Nuvoton Taiwan withdrew a total of 424 million liters of water and discharged 318 million liters. All activities were reported in compliance with regulations, ensuring no issues of waste or wastewater leakage impacted the surrounding environment. In 2024, Nuvoton Taiwan’s water consumption surpassed that of 2023, primarily due to a 16% increase in wafer mask production capacity. Furthermore, 2 combustion-type exhaust gas treatment units were installed in 2024 to mitigate greenhouse gas emissions, which also contributed to the overall rise in water consumption compared to 2023. Nevertheless, the water usage per unit product in 2024 was 45.3 Liters/layer-wafer mask, marking

a 9% reduction from the 49.6 Liters/layer-wafer mask recorded in 2023. This demonstrates that while expanding production capacity, we have also enhanced water efficiency, leading to decreased water consumption per unit product.

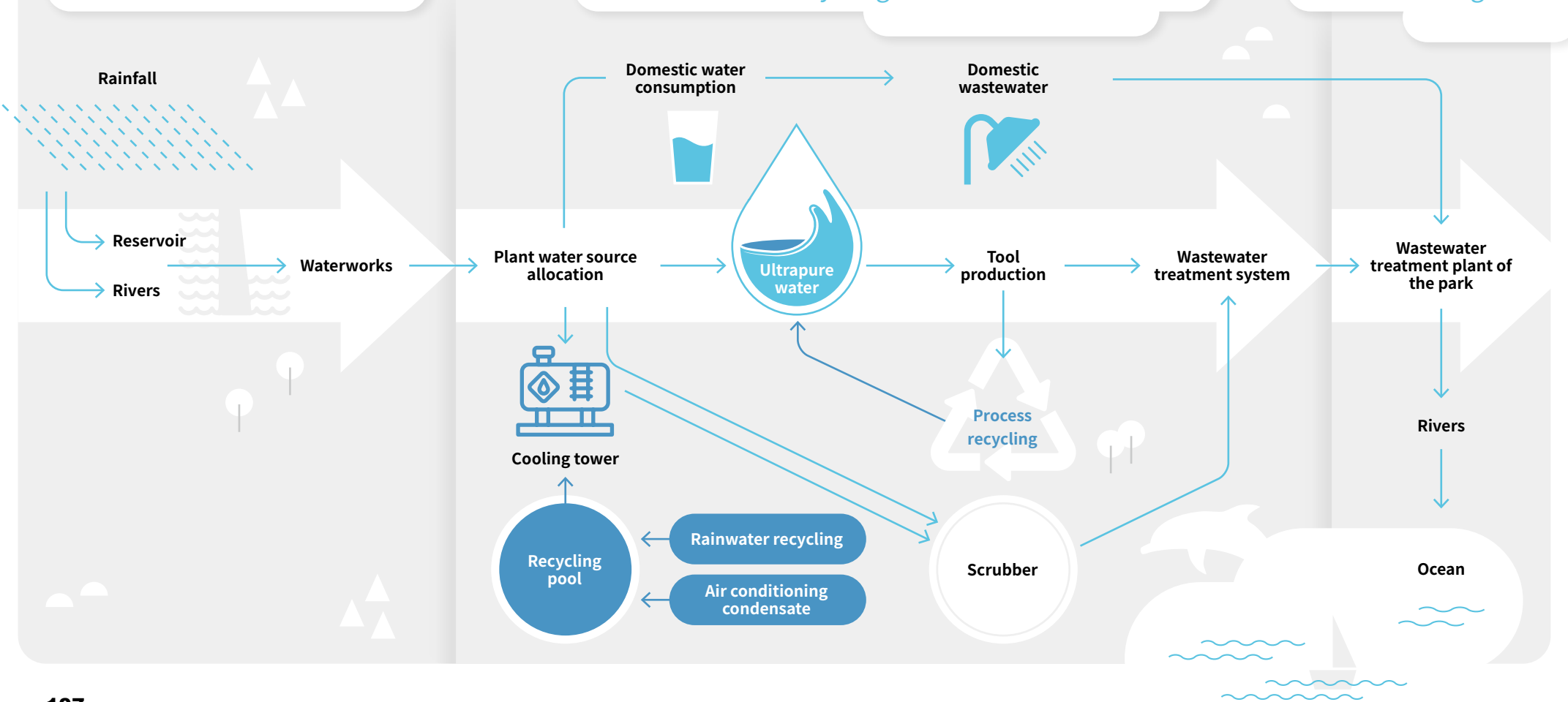
Wastewater includes both process wastewater and wastewater generated from daily activities. Process wastewater sources can be generally divided into cleaning, film formation, etching, development, and diffusion processes. Wastewater is categorized into acidic and alkaline wastewater, fluorinated wastewater, and grinding wastewater. To meet the standards of water pollution control, treatments such as acid-base neutralization or adding calcium chloride to fluorinated wastewater (depending on their characteristics), coagulation, and sedimentation are used to meet the standards for water pollution prevention measures. Sampling and analysis are conducted every six months to ensure that the quality of the discharged water does not exceed the standards. The water is then discharged to the Hsinchu Science Park sewage treatment plant for treatment, and finally discharged into Keya Creek through a dedicated pipeline. As for domestic wastewater, it is directly discharged into the park’s wastewater treatment plant via the sewer system.

Water Balance and Supply Chain Environmental Relationship

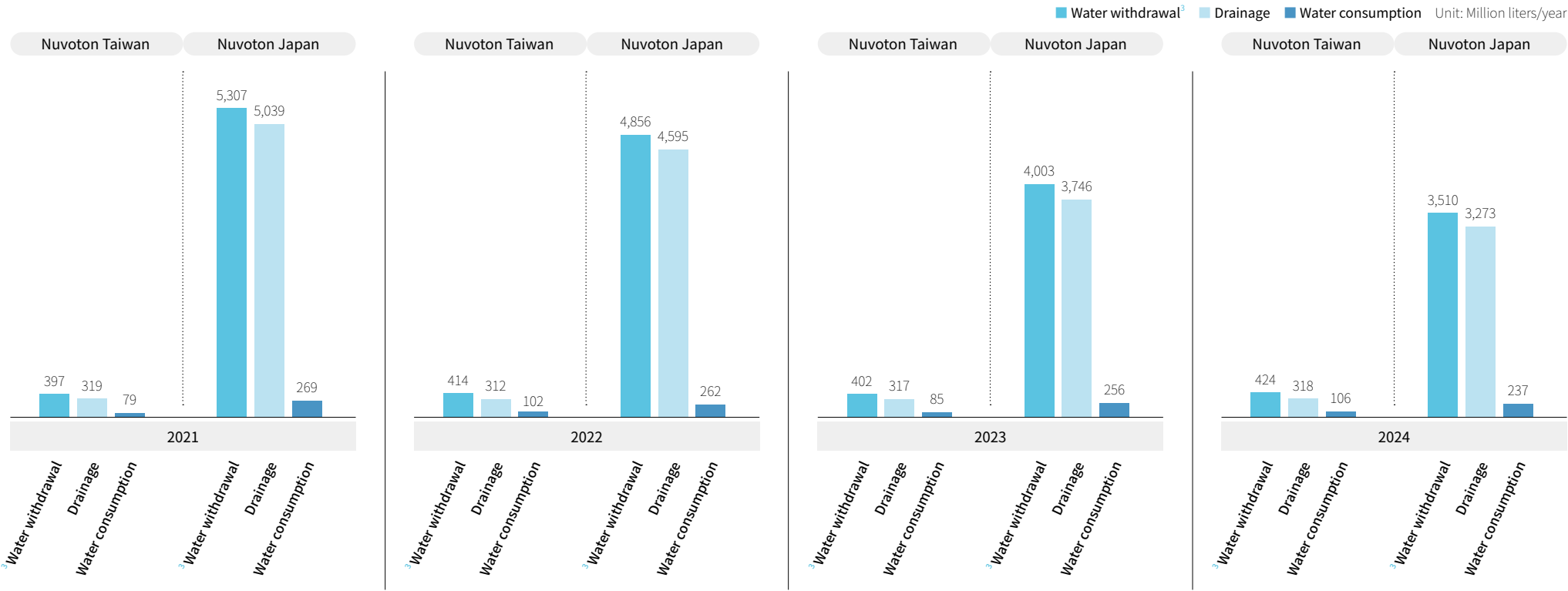
Water Resources

Plant Recycling and Circulation

Water Discharge



Water Resource Usage^{1&2}



1 The scope of water resource statistics covers Nuvoton Taiwan and Nuvoton Japan, neither of which sources water from water-stressed areas.

2 The data information here has been recomplied and the adjustment instructions compared with the previous year's report are detailed in [Appendix 3](#).

3 Nuvoton Taiwan's water sources for tap water are third-party water and surface water, with no water coming from groundwater or seawater. The third-party water source comes from surface water (freshwater $\leq 1,000$ mg/L total dissolved solids). The total water withdrawal is calculated as the sum of surface water (total), groundwater (total), seawater (total), and third-party water (total).

Consumption of Ultrapure Water in Nuvoton Processes

Unit: Million liters/year

Company	2021	2022	2023	2024
Nuvoton Taiwan	499	485	452	464
Nuvoton Japan	1,822	1,930	1,382	1,121

To comply with the Science and Technology Management Bureau’s new inclusion item in 2021 - NMP concentration standards, Nuvoton Taiwan actively evaluated suitable methods. In 2022, the verification of new raw materials on products was completed, and in 2023, they were put into use, continuously monitoring the NMP in discharge water, achieving a 100% pass rate.



Discharge Water Quality in the Past Two Years

Unit: mg/L

Company	Discharge Water Components	Inclusion Standards	2023 First Half	2023 Second Half	2024 First Half	2024 Second Half
Nuvoton Taiwan	Suspended particulate matters	300	4	3	36	167
	Chemical oxygen demand	500	26	34	74	50
	Fluoride	15	5	3	11	14
	Ammonia	50	10	8	14	8
	Nitrate nitrogen	50	3	0.5	5	16
Nuvoton Japan	Suspended particulate matters (Uozu plant)	90	2.5	2	3	-
	Suspended particulate matters (Arai plant)	50	2	<1	1	2
	Suspended particulate matters (Nagaokakyo plant)	600	16.7	21.4	7.5	3.2
	Chemical oxygen demand (Uozu plant)	25	2	2	1.5	2.3
	Chemical oxygen demand (Arai plant)	160	1	1.1	1	1
	Chemical oxygen demand (Nagaokakyo plant)	600	13.27	7.6	11.5	9.2
	Fluoride (Uozu plant)	8	1.4	1.6	0.9	1.2
	Fluoride (Arai plant)	8	<0.5	<0.5	<0.5	<0.5
	Fluoride (Nagaokakyo plant)	8	<0.1	<0.1	<0.1	<0.1

1 The survey scope covers Nuvoton Taiwan and Nuvoton Japan. The data of Nuvoton Taiwan refers to the Hsinchu Yanshin plant.

4.3.3 Circular Economy

Nuvoton adheres to the “Safety, Health, and Environmental Policy” commitment and the goal of “not damaging the environment.” The waste management strategy focuses on “minimizing waste treatment and maximizing resource recycling” by reducing waste at the source, enhancing waste recycling and reuse, and reducing the environmental burden of production.

IC design R&D and wafer foundry production components are provided to customers for assembling and selling electronic products. Faulty electronic products, part replacements, or disposal are handled by the customers. For waste generated during the production of components, internal source classification and reduction management are implemented. Efforts include extending material usage, optimizing production operations, and recycling packaging materials. Continuous evaluation of waste recycling and reuse is conducted to reduce waste generation and increase resource recycling.

Nuvoton follows the “Waste Management Procedures” for waste classification, collection, storage management, waste declaration, and supervision and auditing of outsourced waste disposal. Internal management involves regular inspections to accurately grasp the output of each process, promote process improvements to reduce waste, and ensure regulatory compliance. External contractors are carefully selected from legally permitted waste disposal and recycling companies. Before outsourcing,

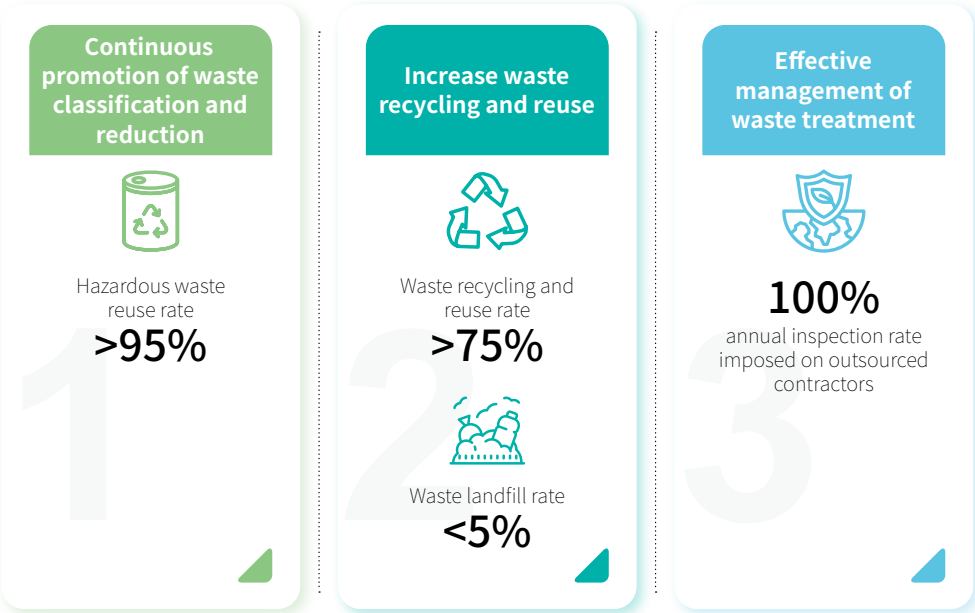
the disposal and recycling methods of the contractor are verified for appropriateness through an investigation procedure. Regular audits of waste disposal contractors are conducted to ensure the legality of outsourced waste disposal, fulfilling the responsibility for waste generation source. In 2024, a total of 19 audits were conducted, with no cooperation termination due to regulatory violations or related issues, and there were no improper waste disposal incidents at Taiwan and Japan plants.

Nuvoton Taiwan has no import or export of wastes, and the priority for waste disposal is reuse. Waste that cannot be reused is incinerated or landfilled. In 2024, the total waste output was 2,893 tons, divided into 2,388 tons (83%) of general industrial waste (including recyclable waste and office-generated domestic waste) and 505 tons (17%) of hazardous industrial waste. The amount reused (including recycled resources) was 850 tons (69%), the incinerated amount was approximately 332 tons (28%), and the landfilled amount was 32 tons (3%). The unit product waste output was 0.094 Kg/layer-wafer mask, an increase from 2023 due to the replacement of wastewater plant facilities and increased sludge production. To continue maximizing resource recycling through outsourcing, an evaluation of inorganic sludge (CaF_2 resource recycling) reuse was conducted, starting reuse in 2024. For detailed waste generation and disposal data, please see [Appendix 1: Environmental Data](#).



The annual audit of waste disposal contractors is based on the harmfulness of the waste, the amount generated, and the results of the previous audit scores. The severity of environmental impact risk and the level of processing risk probability are evaluated, and the audit frequency for waste disposal contractors is determined using a risk matrix of severity and probability, along with regulatory requirements. An annual waste disposal contractor audit plan is scheduled every 1 to 3 years, inspecting the operations of waste removal contractors and processing/recycling plants, and conducting real-time GPS tracking after waste removal to ensure proper waste treatment and effective control of waste processing risks.

Nuvoton Taiwan’s future plans will continue to promote waste management, maintaining the same three major goals in 2025 as in 2024:



Nuvoton Japan strives to minimize landfill disposal and maximize waste recycling in waste management, maintaining a recycling rate of 99.5% or higher. Effective waste disposal management is ensured through on-site inspections of all suppliers conducted every three years.

Reuse Treatment Plans


Location	Plan	2024 Reduction Benefits
Nuvoton Taiwan Yanshin Plant	CaF ₂ sludge (resource recycling) evaluation	Change from landfill treatment to reuse, increase the reuse amount of sludge by approximately 53 Tons/year
	Waste sulfuric acid: Recycle and dilute into industrial-grade dilute sulfuric acid for industrial use (not for drinking water treatment, medicine, or fertilizer additives)	Recycle 375 tons
	Waste hydrofluoric acid: Recycle and use as raw material for industrial-grade sodium fluosilicate, applied as a flux agent	Recycle 69 tons
	Waste Isopropanol: Recycle and distill into industrial-grade isopropanol	Recycle 24 tons
	Waste organic solvents: Recycle and distill into industrial-grade organic raw materials	Recycle 44 tons
	Waste chemical drums: Recycle, clean, and reuse, or crush and use as plastic or glass raw materials	Recycle 8.7 tons
	Recycle photomasks: Clean and remove pattern, use to produce recycled photomasks or optical materials	Recycle 0.4 tons
	Recycle Mixed Hardware (including waste electronic components, scrap, and defective products): Recycle valuable and other metals after treatment	Recycle 6.96 tons
	Recyclable waste (waste paper, glass, scrap iron and aluminum, waste polystyrene, aluminum foil packaging, PET bottles, and waste plastics): Recycle by recycling contractors	Recycle 55.0 tons
Nuvoton Japan	General waste (waste plastic, paper, and wood mixtures): Recycle through physical screening and treatment	Recycle 18 tons
	Sort waste materials and convert them into valuable resources for reuse	Recycle 3.92 tons

Impact and Response to Waste


Nuvoton also values the actual and potential impacts of activities and processes on people, the environment, and society. On the manufacturing side, Nuvoton internally implements source classification and reduction management, and continuously evaluates waste recycling and reuse to reduce waste generation and increase waste resource utilization. In terms of waste reuse and disposal, in addition to carefully selecting legally authorized vendors, Nuvoton verifies the appropriateness of the removal, treatment, and reuse methods used by vendors before commissioning them, passing inspection procedures, and regularly auditing waste disposal contractors to maintain oversight.

Circular Economy

Nuvoton Taiwan Yanshin Plant



Related Measures



Explanation of 2024 Implementation Progress

▶ After the packaging and testing by contracted factories, the wafer cassettes are returned to the factory for recycling and reuse.

The recycling rate is
52.7%.

▶ After unpacking incoming materials, outer boxes and EPE cushioning materials from the foundry fab are recycled and reused by contracted factories for packaging.

The recycled packaging materials used amounted to
11,815 kg
an increase of
2,884 kg
compared to 2023.

▶ After T&R processing, the trays are returned to the factory for recycling and reuse.

▶ Empty boxes from scrapped defective products are recycled for use as void fillers in packaging for outbound shipments.

4.3.4 Key Chemical Raw Materials


Nuvoton has identified that the nitrogen and sulfuric acid supplied by vendors significantly influence the carbon emissions across the product life cycle, categorized under Scope 3 indirect emissions. Consequently, Nuvoton has prioritized these two chemical raw materials for ongoing monitoring and reduction efforts, with 2021 established as the baseline year to actively advance reduction initiatives. In 2024, nitrogen consumption decreased by 57% compared to the baseline year (2021), while sulfuric acid consumption decreased by 33% compared to the baseline year.

Nuvoton Nitrogen and Sulfuric Acid Reduction in the Past Three Years

Item	Unit	2021 (Baseline Year)	2022	2023	2024
Nitrogen consumption	10,000 m ³	3,453	2,903	1,763	1,468
Nitrogen consumption reduction ratio	%	-	16%	49%	57%
Sulfuric acid consumption	Tons	962	877	556	640
Sulfuric acid consumption reduction ratio	%	-	9%	42%	33%

1

The scope of the survey includes Nuvoton Taiwan and Nuvoton Japan. For more data on nitrogen and sulfuric acid consumption, please refer to [Appendix 1: Environmental Data](#). Besides, the data information here has been recomplied and the adjustment instructions compared with the previous year's report are detailed in [Appendix 3](#).



4.4 Air Pollution Control

Nuvoton rigorously complies with governmental environmental regulations and refers to international standards, demonstrating a commitment to the ongoing reduction of pollutant emissions. The primary air pollutants produced by Nuvoton stem from its production processes and include Volatile Organic Compounds (VOCs), nitrogen oxides, sulfur oxides, ammonia, chlorine, hydrochloric acid, nitric acid, and phosphoric acid, among others. To effectively manage these pollutants, the Company addresses them at the source by enhancing processes to decrease the concentration and volume of waste gas. Nuvoton implements suitable treatments for various waste gases, tailored to their specific characteristics. The Company's air pollutant treatment system runs continuously around the clock, with constant monitoring of its operational status to guarantee proper functioning. Below are the treatment methods for various types of waste gas:

- 01

In the exhaust gas, general acidic and alkaline gases are discharged to the central gas scrubber for neutralization.
- 02

Certain flammable, toxic, and FC-containing exhaust gases first undergo high-concentration treatment at the process equipment's on-site air treatment facility (Local Scrubber) using adsorption, combustion, electric heating, or washing systems to effectively mitigate hazards. The treated gases are subsequently discharged to a central exhaust scrubber for neutralization.
- 03

Exhaust gases containing volatile organic compounds are first adsorbed by a zeolite rotor before being directed to a direct-fired oxidation furnace for incineration. High-boiling-point organic exhaust gases are collected through condensation based on temperature differentials.

In addition to continuous monitoring within the plant, certified laboratories are commissioned annually to conduct tests, and the results are reported to the regulatory authorities. The test items include non-methane hydrocarbons (NMHC), acid and alkaline gases, such as sulfuric acid (H₂SO₄), hydrochloric acid (HCl), nitric acid (HNO₃), hydrofluoric acid (HF), phosphoric acid (H₃PO₄), and ammonia (NH₃), etc. Historical actual test results from Nuvoton show that the concentration of air pollutant emissions consistently remains below the exhaust emission standards.

Unit: Tons

Air Pollution Gas Emissions					
Company	Type	2021 Emissions	2022 Emissions	2023 Emissions	2024 Emissions
Nuvoton Taiwan	Nitrogen oxides	2.90	3.14	3.36	3.29
Nuvoton Japan		158.05	15.22	11.37	9.17
Nuvoton Taiwan	Sulfur oxides	1.46	1.52	0.89	1.75
Nuvoton Japan		1.71	0.86	1.46	1.02
Nuvoton Taiwan	Volatile organic compounds (VOC)	3.14	3.24	2.74	2.35
Nuvoton Japan		-	-	-	-
Nuvoton Taiwan	Suspended particulate matter (PM)	0.27	0.29	0.30	0.30
Nuvoton Japan		-	-	-	-

- 1 The survey scope of Nuvoton Taiwan is the Yanshin plant, while Nuvoton Japan reported no detection(ND) of VOC and PM values in 2024.
- 2 The data information here has been recompiled and the adjustment instructions compared with the previous year's report are detailed in [Appendix 3](#).

Exhaust Gases Generated from Nuvoton's Manufacturing Processes	Air Pollution Prevention Measures
General exhaust gases	Ventilation for equipment heat dissipation
Acid and alkaline exhaust gases	Treat by water scrubbing in a scrubber
Organic exhaust gases	Adsorb and concentrate using a zeolite rotor, then desorb at high temperature and incinerate
High-boiling-point organic exhaust gases	Condense and then adsorb using activated carbon

Chapter 5
Safe
Workplace

2024 Performance Highlights

5.1 Overview of Talent

5.2 Talent Attraction and Growth

- 5.2.1 Talent Recruitment and Retention
- 5.2.2 Talent Cultivation
- 5.2.3 Remuneration and Benefits

5.3 Occupational Safety and Health

- 5.3.1 Workplace Safety
- 5.3.2 Healthy Workplace

5.4 Employee Care and Communication



In 2024, the first independent **human rights due diligence report** was issued.



Implemented contractor management and supervision, achieving a contractor injury rate of **0** for six consecutive years



A total of approximately **NT\$ 93.13** million has been disbursed for childcare subsidies from 2021 to 2024.



The return-to-work rate after maternity leave is **66.67%**, and the retention rate is also **85.71%** in Nuvoton Taiwan.



The total training hours reach **54,759.68** hours, with an average of **35 hours** per person in 2024.



Participate in the 2024 **Talent in Taiwan Initiative**



The average salary of full-time employees (non-management) is **NT\$ 1.508** million.



Awarded by the Ministry of Labor's Occupational Safety and Health Administration as an **outstanding enterprise** in the "Corporate Sustainability Report Disclosure of Occupational Health and Safety Performance Proactive Evaluation" for 2024



Nuvoton values talent as the cornerstone of sustainable development. Embracing a “people-oriented” approach, we prioritize talent cultivation and development. Our five core strategies—diverse strategies to attract talent, active cultivation and development of talent, superior retention system compared to industry peers, emphasis on and practice of workplace safety, and care for employees and encouragement of communication—are designed to foster a safe workplace environment, ensuring employees have a secure and healthy working environment. Nuvoton has been continuously enhancing our human resource management system and streamlining integration systems. We offer various channels and programs for recruitment to attract talent to Nuvoton, devise diverse training programs and career development paths, build a robust talent pool, and provide comprehensive welfare and competitive compensation systems to retain exceptional talent. We also prioritize occupational safety by promoting a “safety culture” aimed at identifying potential safety risks in advance, thus creating a safe workplace environment. Adhering to our “Occupational Safety, Health, and Environmental Protection Policy,” we actively invest in and implement occupational safety and health management practices. Furthermore, we care for each employee by maintaining transparent and open labor-management communication channels, ensuring the rights and workplace safety of all employees are safeguarded.



Active cultivation and development of talent

- Offer 8 AI and digital tool-related courses, including Microsoft 365, Copilot, Albert AI, Github, Copilot and so forth, to enhance the productivity of employees
- To meet the needs of various management levels, Nuvoton Taiwan and Nuvoton Japan have introduced team leadership and communication courses, such as True Colors, Innovative Leadership, and Talent Development Strategy Sandbox.
- Offer subsidies for language learning platforms to motivate employees to improve their foreign language skills through self-directed study



Diverse strategies to attract talent

- Actively participate in open house events organized by universities or recruitment service companies
- Organize campus roadshow seminars that allow students to learn about the Company and attract them to join Nuvoton in the future
- Develop internship programs to create a strong employer brand and increase visibility among student communities



Superior retention system compared to industry peers

- Set reasonable fixed salaries based on market salary standards
- To ensure the overall competitiveness of the Company's compensation, allocate no less than one percent of profits as employee compensation when the Company is profitable.
- Nuvoton was selected into the list of Constituent Stocks of the “Taiwan High Compensation 100 Index” in 2024.



Emphasis on and practice of workplace safety

- Enhance or replace safety protection for high-risk process machines and factory equipment, including wastewater plant areas, chemical storage areas in warehouses, and wet etching processes
- Conduct physical and online courses to strengthen employees' knowledge and skills regarding risk awareness, hazard prevention, and emergency response; cultivate employees' emergency response capabilities and safety awareness



Care for employees and encouragement of communication

- Organize 4 Town Hall Meetings in Taipei and Tainan, hosted by the president, to provide channels for employees to ask questions
- Set up employee suggestion boxes and dedicated windows at each office site to promptly address employee inquiries
- Hold labor-management meetings every quarter to promote communication and cooperation between both parties
- Nuvoton Japan conducted an employee satisfaction survey in 2024 and collected employee feedback.



5.1 Overview of Talent¹

Nuvoton regards talent as the key capital for the Company’s sustainability and the core of its long-term success. We value talent cultivation and development, devote to creating a friendly workplace, and provide employees with a safe and healthy working environment. The Company consistently enhances the human resource management system, dedicating substantial resources to optimize various aspects, such as recruitment, remuneration and benefits, and talent development. We foster a people-oriented corporate culture to strengthen employees’ sense of belonging to Nuvoton, and are committed to fulfilling our corporate social responsibilities and leveraging Nuvoton’s influence. We adhere to the principle of giving back to society, especially in the face of global uncertainties, to maintain Nuvoton’s competitiveness.

As of December 31, 2024, Nuvoton employs a total of 1,594 individuals in Taiwan, with female employees comprising 42% and male employees comprising 58%. The higher proportion of male employees can be attributed to the predominance of males among students enrolled in professional engineering programs in Taiwan. Nuvoton is dedicated to global expansion and had a total workforce of 3,719 employees worldwide in 2024, including 2,125 employees stationed overseas, constituting 57% of the total workforce. In Taiwan, there are 58 senior executives, while overseas there are 93, with 97% of senior executives being local residents in both Taiwan and overseas regions. Additionally, the Company engages 55 non-employee workers in Taiwan, 2 at overseas subsidiaries and 23 in Japan. These workers occupy various contractual roles, including security personnel, janitors, cafeteria staff, IT contractors, and other regular contract workers, as well as non-regular contract contractors.

Talent Structure Composition^{2&3}

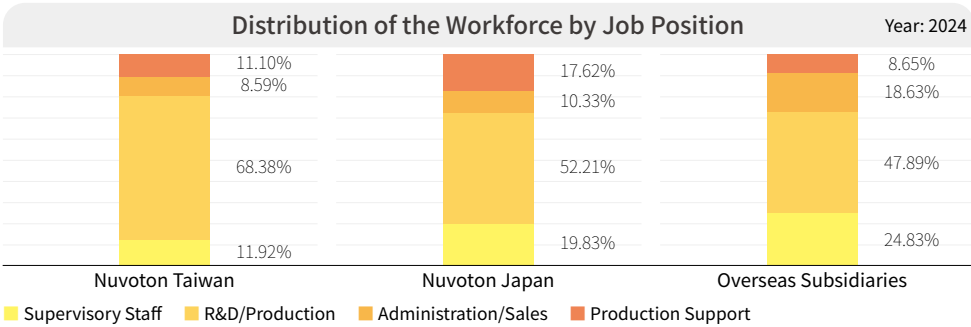
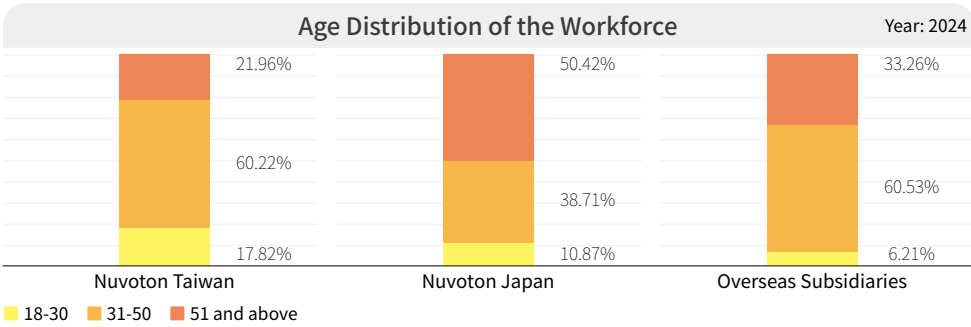
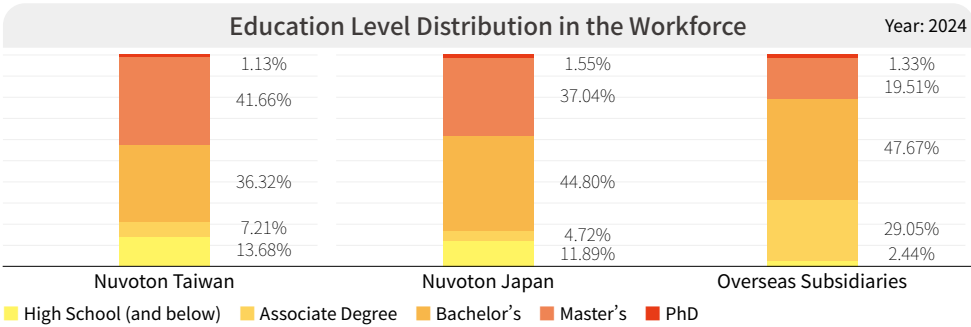
2024	Contract Type ⁴	Nuvoton Taiwan			Nuvoton Japan			Overseas Subsidiaries		
		Female	Male	Total	Female	Male	Total	Female	Male	Total
Employment Contract	Permanent Employee	660	919	1,579	169	1,505	1,674	136	313	449
	Temporary Employee	3	12	15	0	0	0	1	1	2

1 For four-year data on employee diversity, please refer to [Appendix 2: Social Data](#).

2 The data information here has been recompiled and the adjustment instructions compared with the previous year’s report are detailed in [Appendix 3](#).

3 In line with the disclosure from the parent company, Winbond, temporary employees include non-guaranteed hours employee.

4 The employee classification defines fixed-term contract employees as temporary employees and irregular contract employees as permanent employees according to GRI.

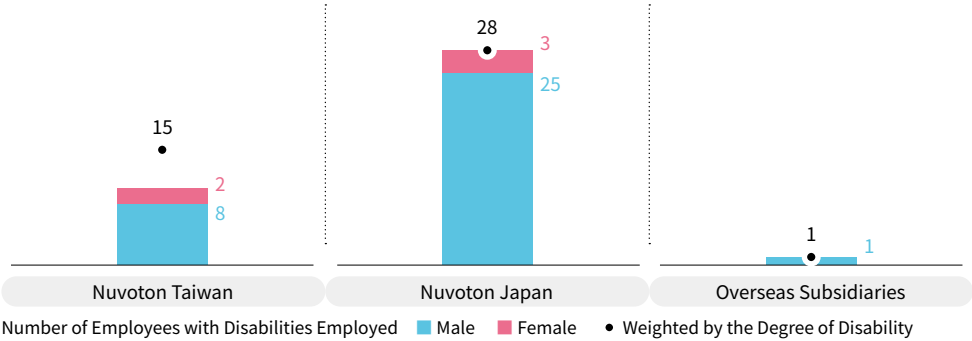


Employment of Employees with Disabilities

Nuvoton is committed to leveraging its corporate influence, with a particular focus on creating employment opportunities and fostering workplace integration for individuals with physical and mental disabilities. Nuvoton firmly believes that every individual possesses unique value and potential for contribution. Since 2011, the Company has proactively created the position of “visually impaired massage therapists” to provide a friendly and empowering work environment for individuals with visual impairments. Through stable employment and career support, we help them develop professional skills and achieve independence. Additionally, our employees are offered free stress-relieving massage services, which not only enhance employee well-being but also realize mutual benefits between the Company and individuals with disabilities.

As of 2024, Nuvoton has employed 39 employees with disabilities, with a weighted number of 44, fully demonstrating the Company’s commitment to workplace diversity and equality. Not only do we exceed the legal employment requirements, but we also create an environment of understanding, respect, and inclusion through humanized management and internal advocacy. The Company regularly reviews accessibility facilities and workplace accommodations to ensure that every colleague can thrive in a safe, dignified, and supportive environment.

Nuvoton believes that a Company’s value comes not only from its operational performance but also from its positive impact on society. In the future, we will continue to expand employment opportunities for individuals with disabilities and take concrete actions to respond to societal expectations, becoming a driving force for sustainability and shared prosperity.



Human Rights Policy

Nuvoton has formulated and released the “Nuvoton Human Rights Policy,” endorsed by the Chairman. This policy is applicable to all full-time employees, contract personnel, and interns of Nuvoton and its subsidiaries, as well as Nuvoton’s business partners, suppliers, and contractors. The Company is dedicated to upholding international labor and human rights standards, guided by the highest principles derived from globally recognized human rights conventions, including the International Bill of Human Rights, the Universal Declaration of Human Rights, the United Nations Guiding Principles on Business and Human Rights, the UN Global Compact, and the International Labor Organization’s Declaration on Fundamental Principles and Rights at Work. Additionally, the Company enforces the “Responsible Business Alliance Code of Conduct” to guarantee a safe and ethically compliant working environment, demonstrating its strong commitment to human rights topics.



Nuvoton Human Rights Policy

Promotion of Human Rights Management

To safeguard the human rights of employees, suppliers, and other stakeholders, Nuvoton implements various measures for human rights management. Firstly, the Company has formulated the “Code of Conduct for Corporate Social Responsibility” and developed internal management policies and procedures based on it. Additionally, Nuvoton follows the Responsible Business Alliance’s standards on freedom of employment to safeguard employees’ labor rights. This includes ensuring the freedom of choice of occupation, prohibiting the use of child or forced labor, protecting young workers, adhering to statutory compensation and benefits, respecting employees’ freedom of association, and avoiding the use of conflict minerals. Discrimination based on various factors, such as race, nationality, color, age, gender, sexual orientation, gender identity and expression, ethnicity, disability, pregnancy, religion, political opinions, military service status, protected genetic information, club membership, or marital status in matters such as employment, wages, rewards, punishments, promotions, or retirement is strictly prohibited. If the use of child labor is discovered after employment, immediate notification is given to the employing unit, work is suspended, and the child is sent to the hospital for examination to ensure their health has not been affected by work. After terminating the employment relationship, the child is returned to their guardian, with all incurred costs, including examination fees, wages owed, and transportation expenses, borne by the Company.

Furthermore, to enhance human rights awareness among internal employees, Nuvoton Taiwan regularly conducts training programs related to human rights, specifically the Code of Conduct for Corporate Social Responsibility training and workplace unlawful infringement prevention training. These programs are mandatory annual courses for all employees, and emphasize labor rights, environmental protection, health and safety, ethical standards, and legal awareness of illegal harassment. They aim to strengthen integrity operation and improve employees’ self-protection awareness. In 2024, the completion rate for both courses was 100%. Nuvoton Japan also regularly conducts human rights-related education and training annually, with a completion rate of 100% in 2024. Nuvoton also requires all manufacturers in the supply chain to jointly sign the RBA standard “Compliance Commitment Code of Conduct” and “Confidentiality Commitment” and utilizes its purchasing power to demand adherence to human rights and social standards. Additionally, we have implemented a complaint mechanism and established channels, along with formulating the “Reporting Violations of Integrity Conduct Regulations” which outlines the operational procedures for addressing such complaints. For detailed complaint channels, please refer to [3.3.1 Regulatory Compliance](#).



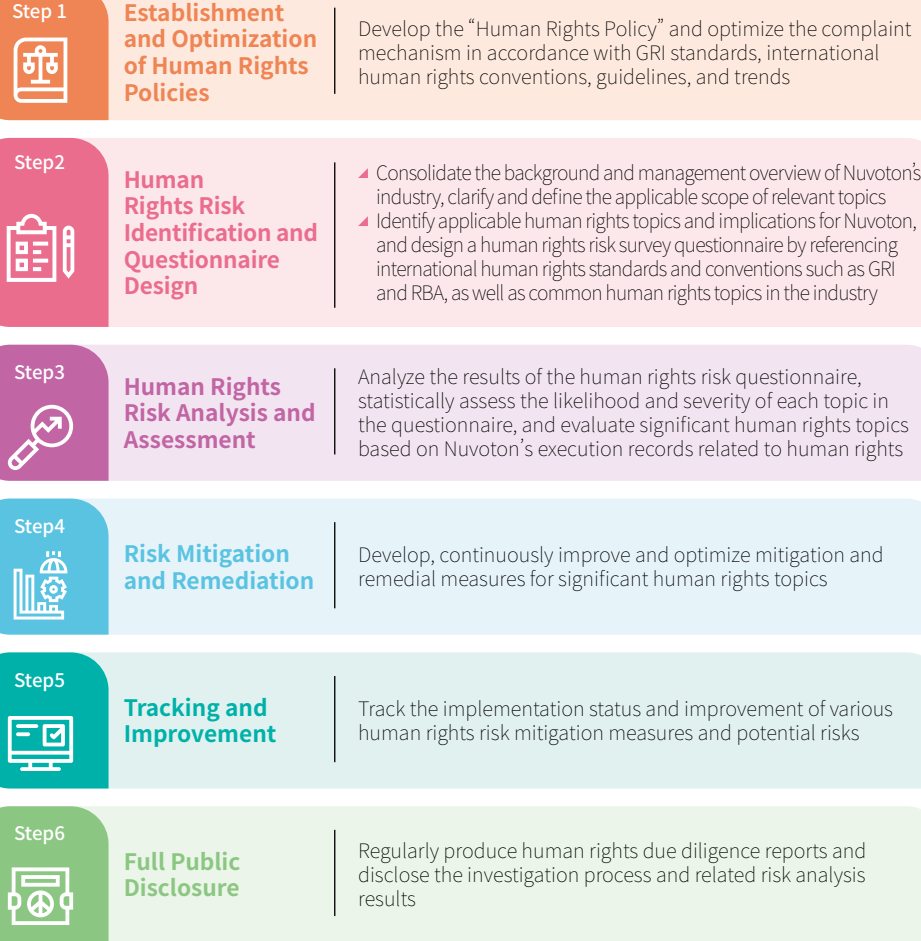
In 2024, Nuvoton did not receive any human rights-related complaint cases in either the Taiwan region or overseas regions. Furthermore, the Company did not employ any child labor in 2024, nor did it receive any complaints regarding discrimination, forced labor, or infringements of indigenous rights. Additionally, there were no violations of employees’ freedom of association or collective bargaining rights, and no breaches of labor laws such as the Labor Standards Act or the Gender Equality in Employment Act.

Human Rights Due Diligence

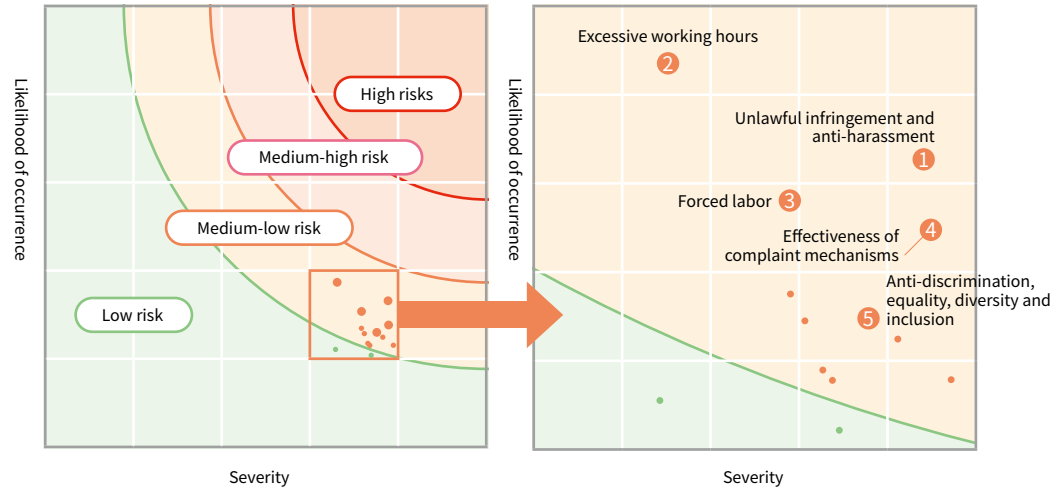
In 2024, we established and publicly disclosed our Human Rights Policy, introduced human rights due diligence processes, conducted human rights risk assessments for employees at the Taiwan headquarters at the initial stage, and gradually expanded the scope of risk assessments in the mid- to long-term to include overseas subsidiaries, suppliers, local communities, and other stakeholders to ensure comprehensive implementation of human rights management.

This year, our Human Rights Due Diligence at Nuvoton Taiwan includes all employees. We have identified and assessed potential human rights issues within the Company, gaining an understanding of our employees’ human rights concerns, which will form the foundation for future human rights risk management. We consistently enhance and refine our human rights management system by conducting regular assessments of human rights risks, ensuring our dedication to human rights protection and the outcomes of due diligence. For comprehensive information on human rights due diligence, please refer to [official website](#).

Human Rights Due Diligence Process



We conducted a human rights risk assessment by sending out questionnaires to employees on 14 human rights risk topics, categorized under “Labor Rights,” “Health and Safety,” and “Governance and Ethics.” Based on the survey results, a human rights risk matrix was developed. The human rights risk matrix defines low, medium-low, medium-high, and high-risk areas based on the product of the “likelihood of occurrence” and the “severity of impact.” The assessment results indicate that none of the 14 topics falls into the high-risk category requiring immediate action. However, we continue to monitor the top five topics, which are “Unlawful Infringement and Anti-Harassment,” “Excessive Working Hours,” “Forced Labor,” “Effectiveness of Complaint Mechanisms” and “Anti-Discrimination, Equality, Diversity and Inclusion.” We are implementing corresponding mitigation and remediation measures to reduce the likelihood of occurrence and negative impacts.



Note: Low risk = risk product ≤ 4 ;
medium-low risk = $4 < \text{risk product} \leq 8$;
Medium-high risk = $8 < \text{risk product} \leq 12$;
High risk = risk product > 12

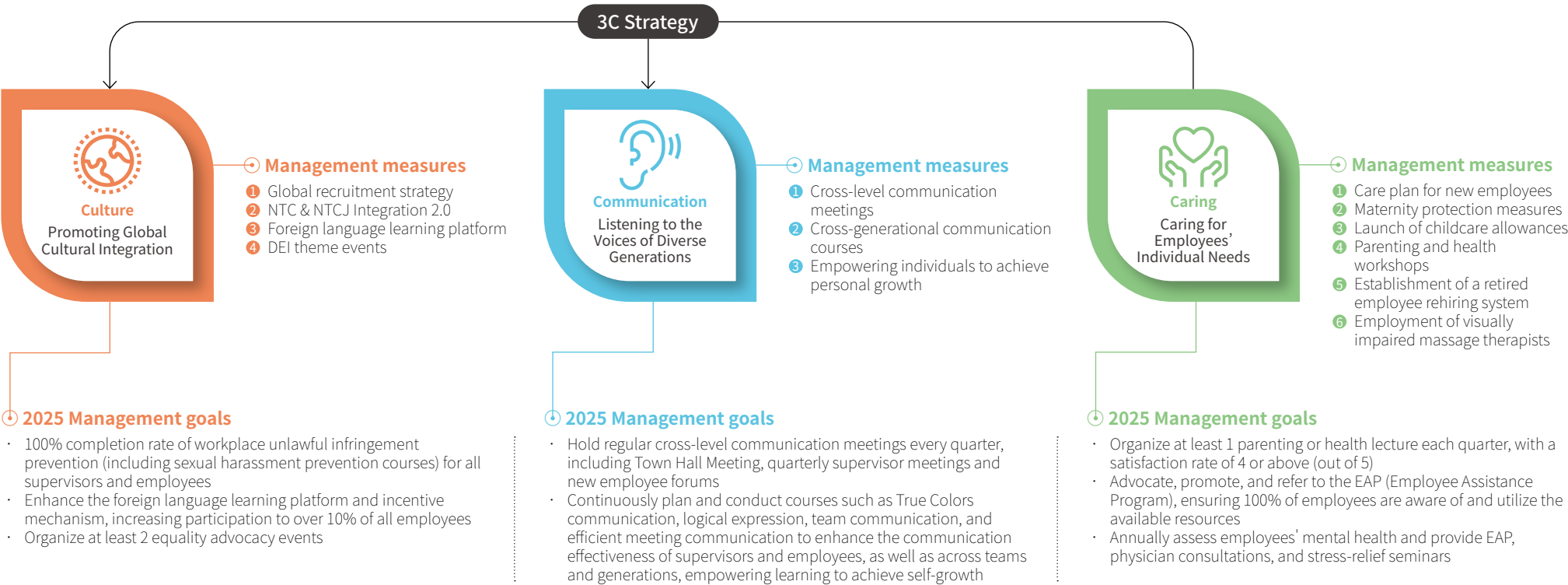
Mitigation and Remediation Measures for Human Rights Risks

Target Audience: Employees

Significant Human Rights Topics	Mitigation Measures	Remediation Measures	2024 Management Indicators
 <p>Unlawful infringement and anti-harassment</p>	<ul style="list-style-type: none"> Strictly implement the "Prevention of Workplace Harassment Regulations" and the "Prevention Plan for Unlawful Infringement in the Performance of Duties" Regularly promote the prohibition of unlawful infringement in the workplace through internal training, bulletin boards, and other channels to ensure employees understand company regulations Review and revise sexual harassment prevention measures for each plant area, as well as related complaint, reward, and punishment procedures 	<ul style="list-style-type: none"> Nuvoton has established complaint channels specifically for topics related to sexual harassment, labor rights, and working environment, allowing employees to file complaints through various channels. If relevant circumstances arise, all complaints are handled with utmost confidentiality to provide appropriate protection for the complainant. Designated contact points oversee each channel to ensure proper information management and limited access restricted to relevant personnel only. Based on the investigation's resolution, necessary actions or improvements will be made for the employees, and if required, relevant personnel may be subject to disciplinary measures. For suspected incidents, internal investigations and disciplinary measures will be implemented to prevent the recurrence of similar events. 	<ul style="list-style-type: none"> Unlawful infringement and anti-harassment complaint: 0 case
 <p>Excessive working hours</p>	<ul style="list-style-type: none"> Manage and analyze reports for the time when employees enter and exit the plant area, provide early warnings to supervisors for managing working hours, and remind supervisors to appropriately allocate work Promote awareness of relevant regulations regarding working hours and labor conditions through educational training 	<ul style="list-style-type: none"> Review the Company's production capacity and manpower requirements to hire additional employees, avoiding overtime work due to insufficient manpower For related incidents, internal investigations and disciplinary measures will be implemented, and employees' rightful entitlements will be returned. 	<ul style="list-style-type: none"> No violations of labor laws and regulations
 <p>Forced labor</p>	<ul style="list-style-type: none"> Each year, we conduct courses on corporate sustainability and social responsibility (including human rights), with relevant systems announced on the Company's internal website for employees to access at any time, ensuring all employees are informed and understand the content. Offer specialized courses on preventing workplace unlawful infringement and basic labor laws to managerial staff to strengthen their awareness and understanding of managerial responsibilities Identify potential risks through the regular RBA VAP (Validated Assessment Program) and SAQ mechanisms 	<ul style="list-style-type: none"> Enhance the advocacy and training programs related to relevant laws and regulations For related incidents, internal investigations and disciplinary measures will be implemented, and employees' rightful entitlements will be returned. Require improvements within a specified time frame if any deficiencies are identified according to RBA audit findings 	<ul style="list-style-type: none"> Forced labor complaint: 0 case Completion rate of human rights education and training: 100%
 <p>Effectiveness of complaint mechanisms</p>	<ul style="list-style-type: none"> Conduct annual sustainability behavior training and promote complaint channels and management methods through internal channels to ensure employees understand company regulations Review company complaint management regulations, complaint channels, and handling procedures, and improve the processes Conduct a survey through a human rights risk assessment questionnaire to understand employees' usage of this topic 	<ul style="list-style-type: none"> For suspected incidents, implement internal investigations and disciplinary measures 	<ul style="list-style-type: none"> Violations of human rights: 0 case
 <p>Anti-discrimination, equality, diversity and inclusion</p>	<ul style="list-style-type: none"> The Company regularly conducts sustainability behavior training to promote awareness of human rights protection among employees. Develop relevant management measures in compliance with laws and regulations to ensure that employees are not subjected to unequal treatment or restrictions based on personal conditions (such as race, gender, age and so forth) Organize activities to promote a friendly workplace, establish employee awareness of DEI (Diversity, Equity, and Inclusion), and advocate against discrimination, equality, diversity and inclusion 	<ul style="list-style-type: none"> For related incidents, internal investigations and disciplinary measures will be implemented, and employees' rightful entitlements will be returned. Provide Employee Assistance Program (EAP) channels, or refer employees to counseling, medical, psychological counseling, social welfare resources, and other necessary services Enhance advocacy and employee education and training programs 	<ul style="list-style-type: none"> Violations of human rights: 0 case Completion rate of human rights education and training: 100%

Nuvoton Human Resources Department - A Key Driver in Practicing DEI

Nuvoton actively integrates the DEI concept into its core operations, spanning global talent recruitment, optimizing human resource allocation, skills enhancement training, and supporting multinational teams. Moving forward, we will continue our ongoing efforts to cultivate a diverse and inclusive workplace environment, consistently embed the DEI culture. We practice DEI from the 3Cs: Culture, Communication, and Caring. We are dedicated to fostering an inclusive working environment and cultivating a culture of inclusivity through a range of initiatives. These initiatives begin with individual employees and aim to shape a Nuvoton culture of inclusion, ultimately enhancing the Company’s overall competitiveness.



Culture - Promoting Global Cultural Integration

As a multinational corporation, we actively recruit employees from diverse cultural backgrounds to promote global cultural integration. We enhance our employer brand through campus lectures and social media, attracting talent from Japan, Korea, mainland China, Singapore, the United States, India, Germany, Israel, and other locations to join our team. To address communication barriers arising from cultural differences, we offer cultural courses from relevant countries and provide cross-cultural

communication training for employees. Additionally, we introduce foreign language learning platforms to encourage employees to enhance their language skills, facilitating smoother communication within multinational teams. Additionally, we demonstrate our respect and support for global multiculturalism through various activities. In 2024, we organized DEI-themed cross-cultural exchange events and celebrity lectures, aiming to establish an inclusive and belonging working environment and corporate culture.

2024 DEI Events

Celebrity lectures

Invite professionals and employees from various fields to share their personal stories and experiences, inspiring employees to understand the importance of diversity, equity, and inclusion, and to build internal DEI awareness, thereby fostering an inclusive and belonging working environment and corporate culture. A total of 4 lecture sessions were conducted in 2024, with a cumulative attendance of 1,149 participants.



- ▲ Does ChatGPT also have gender bias?
- ▶ The hyperactive life of Dee the bugbuff



2024 DEI Events

International delicacies

Use “Food” to connect employees of various nationalities, including offering snacks from Asia, Europe, and America during Halloween and Thanksgiving, and foster interaction among employees of different nationalities through quizzes and street interviews



Communication - Listening to the Voices of Diverse Generations

We regularly hold cross-level communication meetings, such as quarterly supervisor meetings, knowledge sharing sessions, and Town Hall Meetings, providing opportunities for employees to openly express their thoughts and opinions. Additionally, we conducted True Colors communication courses to help supervisors recognize partners with different traits and their corresponding communication styles, thereby fostering mutual understanding and collaboration. In addition, through annual training needs interviews, we understand the training requirements of employees from various departments and organize professional courses to empower employees to learn and grow in their specialized fields.

Caring – Caring for Employees’ Individual Needs

We prioritize addressing the individual needs of each employee by offering tailored support. From personalized care plans for newcomers to maternity care tracking for expectant mothers, and providing monthly childcare allowances for colleagues with children aged 0-4, we are committed to assisting employees in achieving a healthy work-life balance. Additionally, the Company regularly hosts various health seminars and parenting workshops to ensure employees receive adequate support at every stage of their lives. Furthermore, we offer an Employee Assistance Program (EAP) to provide colleagues with assistance when facing challenges in their work or personal lives.

Key Achievements

In addition to implementing a diverse, equal, and inclusive workplace internally, Nuvoton Taiwan announced in 2024 that it would join the “2024 TALENT, in Taiwan, Taiwan Talent Sustainability Development Alliance.” We are committed to conveying the Company’s core philosophy, inspiring employees with the significance and value of their work; promoting an equal and inclusive culture, and strengthening diversity and inclusion through systems and activities; providing high-quality and competitive remuneration and benefits packages to encourage excellent performance; establishing comprehensive health care to promote employees’ physical and mental health and create a good workplace atmosphere; advancing digital learning to stimulate potential and cultivate key talents, ensuring the joint growth of the organization and employees; and forming an open communication platform to actively listen to and support employees through surveys and feedback.

2024 Talent Sustainability Action Initiative





Approved in 2024 to join the “2024 TALENT, in Taiwan, Taiwan Talent Sustainability Development Alliance”

To create a more diverse, equal, and inclusive workplace, we pledge to achieve the following for talents:

- 1 Convey the Company’s core philosophy, inspire employees with the significance and value of their work
- 2 Promote an equal and inclusive culture, and strengthen diversity and inclusion through systems and activities
- 3 Provide high-quality and competitive remuneration and benefits packages to encourage excellent performance
- 4 Establish comprehensive health care to promote employees’ physical and mental health and create a good workplace atmosphere
- 5 Advance digital learning to stimulate potential and cultivate key talents, ensuring the joint growth of the organization and employees
- 6 Form an open communication platform to actively listen to and support employees through surveys and feedback



Talent, in Taiwan - Six Key Indicators

Six Key Indicators	Action Strategies	2024 Action Achievements
 <p>Significance and value</p>	<ul style="list-style-type: none"> ▲ The corporate vision of Nuvoton is to be a "Hidden Champion in Providing Sustainable Semiconductors to Enrich Human Life." The Company advocates five core cultural values: Conduct Business with Integrity and Ethical Behavior, Accountable Team Work, Enthusiasm of Learning, Aggressively Innovate, and Sustainable Contribution. Nuvoton regards talent as the key capital for its sustainability, and emphasizes cultivation and development, creation of a friendly workplace, and provision of a safe and healthy working environment for employees. ▲ The Nuvoton Culture Team regularly invites company executives to contribute articles to internal columns to share the Company's cultural values and ensures comprehensive training programs. ▲ New employees undergo two full days of on-site orientation, which includes a 3-hour cultural experience activity and a 1.5-hour guided reading and discussion of the book "Hidden Champion." This helps internalize the Company's culture and vision, laying a solid foundation for corporate culture during the onboarding period. 	<ul style="list-style-type: none"> ▲ Since its implementation in 2022, executive articles have totaled 128 by the end of 2024, with an average click-through rate of 29.4% in 2024 (an increase of 6.3% compared to the previous year). ▲ In terms of new employee training courses, a total of 108 employees were trained in 2024. The Company's cultural training courses, including book reading activities, accumulated a total of 486 training hours. For all employees, the total training hours in 2024 amounted to 54,760 hours, with an average of 35 hours per person.
 <p>Diversity and inclusion</p>	<ul style="list-style-type: none"> ▲ Nuvoton actively integrates the DEI concept into its core operations, spanning global talent recruitment, optimizing human resource allocation (For example, employment of middle-aged and elderly individuals, and employment of visually impaired massage therapists), skills enhancement training (For example, foreign language learning subsidies), and supporting multinational teams (For example, cross-border team exchanges, DEI activities). Moving forward, we will continue our ongoing efforts to cultivate a diverse, equal and inclusive workplace environment, promoting Nuvoton's goal of a friendly workplace. ▲ In terms of parenting care, Nuvoton provides a monthly childcare subsidy of NT\$ 5,000 to parents until the child reaches four years of age. 	<ul style="list-style-type: none"> ▲ In 2024, four DEI celebrity lectures were held, with 1,149 participants and a subsidy amount of NT\$ 104,749. Additionally, 4 DEI-themed activities were organized across all offices in Taiwan, with a subsidy amount of NT\$ 49,070. ▲ A total of approximately NT\$ 27.98 million was disbursed cumulatively for childcare subsidies from 2021 to 2024. The total cost of English and Japanese language subsidies for 2024 is approximately NT\$ 450,000. ▲ In 2024, the proportion of middle-aged and elderly employees (45 years and above) in the workforce was 7.4% for the entire year; middle-aged and elderly employees accounted for approximately 41% of all current staff. ▲ There are 58 and 93 senior executives in Taiwan and overseas regions, respectively, with 97% of these senior executives being local residents.
 <p>Rewards and incentives</p>	<ul style="list-style-type: none"> ▲ The Company's growth is rooted in the professional and managerial skills of its employees. We set reasonable fixed compensation according to market salary levels, ensuring the overall competitiveness of the Company's pay structure. Performance-based rewards and promotion opportunities are offered to motivate employees to develop alongside the Company. ▲ We value DEI culture, affirm and appreciate the contributions of domestic and foreign employees through public events, and invite senior employees to shoot interview videos, collect employee messages, and other activities to promote communication, showcasing the Company's diverse, equal and inclusive workplace culture and increasing team cohesion. 	<ul style="list-style-type: none"> ▲ Nuvoton was selected into the list of Constituent Stocks of the "Taiwan High Compensation 100 Index" in 2024. In 2024, the average monthly salary of direct employees was 1.36 times higher than the statutory minimum wage. ▲ In 2024, the average annual salary of full-time employees in Taiwan who did not hold managerial positions was NT\$ 1.508 million. ▲ In 2024, a total of 199 senior employees were honored with years of service gifts, and 3 senior employee recognition events were held (Company Family Day/Taipei/Tainan), with a total of 79 senior employees participating in activities such as on-stage recognition and interviews, aiming to enhance employee interaction and strengthen connections and engagement with the Company, embodying the One Team spirit of Nuvoton.
 <p>Physical and mental health</p>	<ul style="list-style-type: none"> ▲ To enhance work-life balance for Nuvoton employees, flexible leave and work arrangements have been introduced. Besides statutory special leave, every employee is entitled to 7 days of "LOHAS leave (full-paid leave)," which new employees can access immediately upon starting. Regular non-factory shifts incorporate a 2-hour "flexible working hours system." ▲ Support club activities (including running club, yoga club, table tennis club, badminton club, hiking club, bridge club, etc.) to care for physical and mental health, and encourage team interaction ▲ Provide on-site medical services monthly and 3 free massages per person per month, and sign contracts with professional consulting agencies to offer Employee Assistance Programs (EAP), including 3 free consultations per person per year on financial management, legal topics, interpersonal (workplace) communication, parent-child/relationship interactions, and psychological counseling. 	<ul style="list-style-type: none"> ▲ In 2024, a total of 1,105 employees (accounting for 71.2%) utilized their LOHAS leave. ▲ As of 2024, there were currently 15 clubs, with a total investment of NT\$ 765,865 in club subsidies. ▲ On-site medical services were provided in 35 sessions, with a total of 474 attendances; free massage services were used a total of 3,985 times. ▲ The Employee Assistance Program (EAP) was used by 76 individuals, with a total subsidy investment of NT\$ 385,000.

Six Key Indicators	Action Strategies	2024 Action Achievements
 Cultivation and development	<ul style="list-style-type: none">▲ In line with the corporate culture of “Enthusiasm of Learning and Aggressively Innovate,” Nuvoton established the “Digital Transformation Committee” in 2022 to drive and accelerate the Company’s digital transformation. By promoting digital tools, platforms and knowledge, and sharing experiences across various plants and departments, the initiative aims to inspire, set benchmarks, and facilitate collective learning, thereby enhancing employees’ digital skills.▲ In 2024, the Company enhanced its support for all employees to participate in AI patent brainstorming. This initiative included the creation of a dedicated brainstorming platform, the organization of discussion and sharing meetings, the expansion of training resources, and the provision of a higher AI patent bonus (26% more than the standard patent bonus). Senior executives publicly presented patent awards to acknowledge exceptional contributions.	<ul style="list-style-type: none">▲ In 2024, Nuvoton organized 12 digital transformation sharing sessions and 28 lectures and courses (with a total of 2,008 participants), introducing at least 8 digital tools (For example, Confluence, JIRA, RPA, Power BI, M365 Copilot, GitHub Copilot and Albert).▲ In 2024, the Company filed 343 patents globally (an increase of 20 compared to the previous year), including 21 AI-related patents. Additionally, 229 patents were granted. Cumulatively, the Company has filed 2,963 patents worldwide, with 1,984 patents granted.▲ Nuvoton ranked 17th among Taiwan’s Top 100 Patent Holders. 10 large-scale award ceremonies have been organized, with over a hundred inventors taking the stage to receive their awards.
 Communication and experience	<ul style="list-style-type: none">▲ Nuvoton values employees’ opinions. For all staff members, each plant provides physical (anonymous) suggestion boxes and diversified online opinion submission channels (including employee complaint, internal/external ESG integrity operation reporting mailboxes, and dedicated sexual harassment mailboxes), which are directly handled by representatives of the Sustainability Development Committee and the Human Resources Department.▲ The President personally rotates quarterly between Taipei and Tainan offices to conduct Town Hall Meetings, where employees are free to ask questions. Each session invites the President and Vice President to personally respond to employees during the meeting, and the President personally presents commemorative items to commend senior employees, thereby enhancing the participation of offsite employees in the Company. For the management part, quarterly communication meetings are held where the Chairman and President share the Company’s business, technological developments, and future prospects with global executives.	<ul style="list-style-type: none">▲ 9 cases were settled through assistance from internal communication channels in 2024, with 0 complaint case. 4 Town Hall Meetings were held, with an attendance rate of 90%, during which, over 52 questions were raised, and a post-event satisfaction score of 4.8 out of 5 was achieved. Care and assistance were extended to new employees, with an average satisfaction rate of 88.3%.

Key Achievement

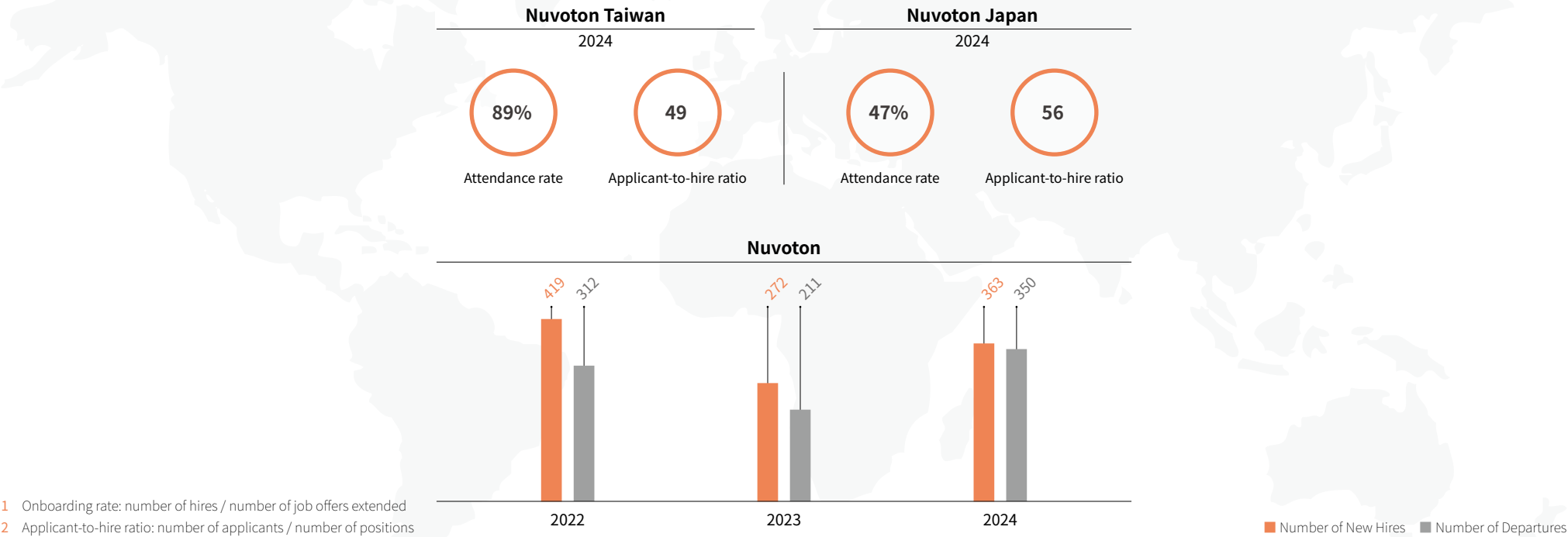
In 2024, Nuvoton Japan was registered as Rainbow Company in Nagaokakyo City and incorporated commitments such as creating a friendly workplace into the Company’s regulations. Additionally, relevant actions were taken in management measures, including holding gender diversity training annually and establishing consultation mechanisms. Our aim is to enhance societal comprehension of gender diversity by fostering collaboration between businesses and the government, thereby establishing a working environment where diverse talents can flourish and grow.



5.2 Talent Attraction and Growth

5.2.1 Talent Recruitment and Retention

Nuvoton operates in two key areas: wafer fabrication and IC design. Consequently, we seek individuals skilled in both IC industry design and manufacturing. With industry applications evolving rapidly, the need for hybrid talent is growing. To attract talent from diverse backgrounds, we utilize various recruitment channels, promote our employer brand, cultivate a high-quality corporate image, offer competitive compensation and benefits, and prioritize retaining exceptional talent. In 2024, the onboarding rate¹ was 89%, with 49 applications received for each position² in Nuvoton Taiwan, 47% and 56 in Nuvoton Japan. The number of new employees and resignations of Nuvoton in 2024 were 363 and 350, respectively. The new employee rates of Nuvoton Taiwan from 2022 to 2024 were 16.8%, 6.7% and 13.8%, respectively, and the resignation rates were 11.1%, 5.6% and 10.4%, respectively. Please see [Appendix 2: Social Data for the data and proportions.](#)



Diverse Recruitment Channels

In addition to using general recruitment channels such as job banks and recruitment websites, we also recruit suitable talents through the following channels:

01

Internal and external recruitment websites & social media

- ▲ Nuvoton Taiwan utilizes an internal recruitment website that underwent significant optimization in 2022 to offer a more convenient and expedited application process for talents. Additionally, we also enhance our employer brand by managing social media.
- ▲ Nuvoton Japan utilizes not only the Company's recruitment website and social media, but also external recruitment websites.

02

Employee referrals

- ▲ Employee referrals have consistently been a vital source for attracting talented individuals to our Company. To sustain enthusiasm for employee referrals, Nuvoton Taiwan offers attractive referral bonuses and meal vouchers.

03

Employee alma mater recruitment events

- ▲ Nuvoton Japan invites young employees to revisit their alma mater to introduce the Company and promote recruitment information to prospective students.

04

Participation in campus recruitment events

- ▲ Nuvoton Taiwan participates in open house events hosted by schools in spring and autumn each year, facilitating early engagement with undergraduate and graduate students and expanding talent recruitment channels. This year, focusing on intelligent technologies (AI), Nuvoton emphasizes its active investment in related product development to attract students interested in AI to join the Company.
- ▲ Nuvoton Japan engages in job fairs organized by universities and recruitment support service companies. In 2024, 12 briefing sessions were held at 7 universities, with a total of 119 students participating.



05

Scholarship programs

- ▲ To cultivate and recruit key talent from universities in advance, Nuvoton is dedicated to managing intercollegiate relationships. In addition to actively participating in career fairs at major universities, the Company also runs scholarship programs to proactively recruit high-potential students.

06

Campus lecture

- ▲ Through campus tour lectures, Nuvoton directly engages with students to exchange semiconductor-related knowledge and applications, thereby enhancing their understanding of our Company. Additionally, executives are eager to share their experiences at Nuvoton, offering inspiration for students' future career paths. In 2024, Nuvoton Taiwan held lectures at National Cheng Kung University and National Tsing Hua University, attracting 270 students to participate. Nuvoton Japan hosted two lectures at Osaka University and Kyoto Institute of Technology in 2024, attracting 80 students to participate.



07

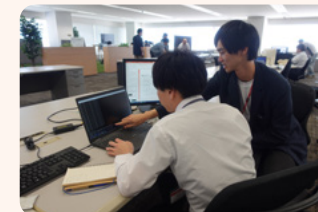
Academic conferences/exhibitions

- ▲ Nuvoton Japan works with its public relations and technical departments to promote the Company at exhibitions and academic conferences for recruitment purposes.

08

Internship program

- ▲ To strengthen our employer brand, increase visibility among student groups, maintain good relationships with professors, and recruit high-potential students in advance, Nuvoton Taiwan has developed an internship program. In 2024, Nuvoton Taiwan collaborated with National Taiwan University, National Tsing Hua University, National Yang Ming Chiao Tung University, and National Chung Hsing University, with a total of 5 students participating.
- ▲ During the summer and winter, students participated in internships at Nuvoton Japan, spending several days at our workplace to gain hands-on experience and familiarize themselves with the Company's operations. In 2024, 266 students from 73 universities participated in the internship program.



09

Academic journals/information magazines

- ▲ Nuvoton Japan publishes information about the Company and job vacancies across various media subscribed to by semiconductor engineers and other specialized professionals.

10

Online career events


- ▲ Nuvoton Japan hosts online events related to the semiconductor industry and engineering careers to establish connections with students.

Competitive Compensation

In 2024, Nuvoton maintained its position on the “Taiwan High Salary 100 Index,” emphasizing the importance of sustainable employee compensation practices for global companies. This index evaluates companies based on criteria such as “average employee salary,” “net profit,” “earnings per share,” and “total employee compensation,” among other quantitative standards. It underscores our commitment to valuing employee compensation and ensuring sustainable development. In addition to overall compensation, we prioritize structuring salaries for new employees based on job responsibilities, experience, and expertise, as mutually agreed upon by both labor and management. We regularly assess the competitiveness of our compensation levels in the industry and the market. During annual salary adjustments, we consider factors, such as market conditions, company performance, and individual job performance. Merit serves as the basis for salary adjustments, and we ensure there is no differential treatment based on gender or location.

Nuvoton Taiwan


Diverse Retention Policies



1

Linking company business performance with employee compensation


Nuvoton establishes reasonable fixed salaries based on market salary levels and stipulates in the Company's articles of incorporation that a portion of profits, no less than one percent, should be allocated to employee compensation, ensuring overall competitiveness in compensation.



2

Career development training programs


Nuvoton conducts regular assessments of employee performance and competence development, providing corresponding compensation based on performance as well as a basis for promotion.



3

Dual career track system

Nuvoton provides a dual career track system for managerial and professional positions to create a robust career advancement pathway, motivating employees to grow with the Company.




4

Internal transfer opportunities

Nuvoton provides diverse development opportunities for global employees, further enhancing the flexibility and depth of career planning. This system allows employees to select suitable positions based on their abilities and career goals, facilitating internal talent mobility within the Company.


Nuvoton Japan



1

Education loan repayment support program


For outstanding academic achievers recruited as new graduates, Nuvoton Japan assists in repaying their student loans after they join the Company.



2

Career development plans

Employees conduct annual reviews of their careers and skills, drafting a "Career Development Plan" that outlines future career directions and specific challenges they face in achieving their goals. Supervisors then conduct one-on-one interviews with subordinates based on the content of their career development plans, and develop work and training plans according to each employee's preferences.



3

Work/life design workshops

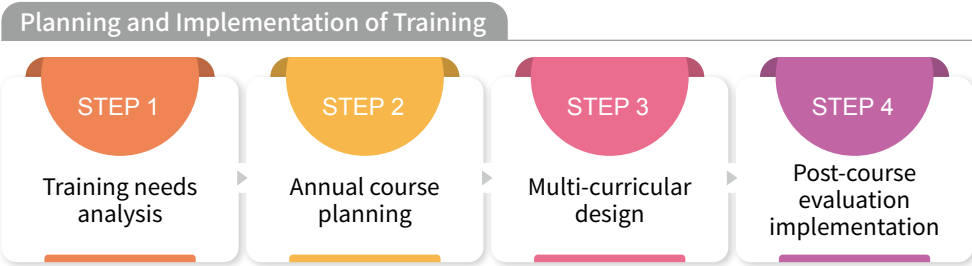
All employees participate in a workshop every five years to review their careers and contemplate their future.

128

5.2.2 Talent Cultivation

Talent Development Policies and Strategies

Nuvoton’s policy for talent development begins with establishing a learning organization, valuing the learning and development of every employee as dynamic learners within the organization. Each year, the Company conducts a training needs analysis to understand the learning needs of each department and employee. It designs and plans rich training courses to provide diverse learning channels and methods, facilitating employee-led learning. The Company integrates internal and external learning resources and links training course content with practical applications, encouraging employees to share work knowledge and creating a work environment conducive to mutual teaching and learning.



Before planning for our annual courses, we conduct a training needs analysis. Firstly, Nuvoton Taiwan conducts training needs surveys and one-on-one interviews with department directors and factory-level supervisors at the end of each year to understand the needs for professional courses and the challenges faced by each unit, arranging relevant courses accordingly. Secondly, each department’s training coordinators focus on professional field attributes and supervisor feedback from the previous year’s courses. Finally, feedback from post-course satisfaction questionnaires is collected, including feedback on course interest and demand. This information is integrated into the training needs from these three steps while reviewing regulatory requirements and organizational future directions, formulating Nuvoton Taiwan’s annual course plan. In contrast, Nuvoton Japan’s training plan is formulated by the Human Resources Department based on the needs of trainees, their supervisors, and department heads. After planning, it is reported to senior management for approval.

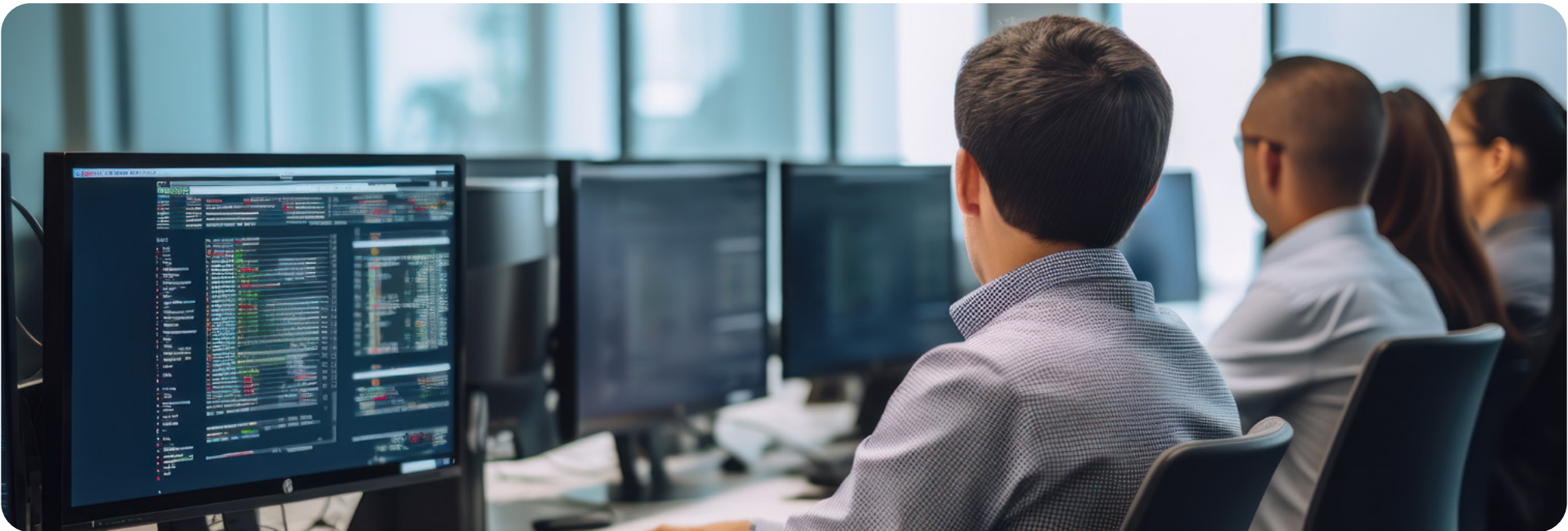
In 2024, we provided diverse courses aimed at actively cultivating employees’ abilities in productivity enhancement, leadership communication, innovative and creative thinking, and understanding political, economic, and ESG trends. To enhance productivity, we offered courses on subjects, such as ChatGPT, Copilot, and Github Enterprise, coupled with IT resources to provide digital tools to various units, with the goal of promoting digital transformation. In terms of leadership communication, we organized True Colors, innovative leadership, and talent development strategy workshops, with the aim of enabling supervisors to successfully lead their teams. To cultivate an active culture of innovation, we launched courses on innovative and creative thinking, guiding colleagues through systematic methods to learn about the process of innovative thinking in both work and life. In 2024, Nuvoton continued to enhance employee training to bolster the professional skills and competitiveness of its global workforce. Nuvoton Taiwan employees averaged 35 hours of training, surpassing the 11 hours for Nuvoton Japan and 9.13 hours for overseas subsidiaries. This discrepancy is primarily attributed to the collaborative efforts within the Winbond and Nuvoton Group to foster an organizational culture of “Enthusiasm of Learning,” promote knowledge sharing, and integrate course resources. Consequently, Nuvoton Taiwan employees have access to more comprehensive and specialized training in areas such as technology, management, ESG, and other pertinent subjects, reflecting the Company’s strong commitment to talent development and reinforcing its sustainable competitiveness.

In the future, Nuvoton will continue to optimize global employee training strategies, strengthen local training resources in various regions to increase overall learning hours and training breadth. We will provide ESG-related courses, such as green supply chain, corporate net carbon zero targets, and carbon management courses, ensuring employees possess the capabilities to respond to sustainability trends. Furthermore, we will persist in broadening technical and management training, fostering digital transformation and innovative thinking, which empowers employees to integrate sustainable value into their work. By taking concrete actions, we aim to deepen the organizational culture of “Enthusiasm of Learning,” foster the mutual growth of both the organization and its talents, and build a more competitive and influential sustainable enterprise. For detailed training data, please see [Appendix 2: Social Data](#).

Training Programs at Nuvoton

Nuvoton boasts a diverse and comprehensive educational training system designed to cater to employees at every level, from entry-level to senior executives. Tailored to their respective levels, roles, and developmental needs, we provide suitable learning content through various channels, including e-learning, on-the-job training, in-house training, live streaming courses, physical classes, quarterly supervisor meetings, and knowledge sharing sessions. Additionally, we actively encourage self-directed learning among employees. Furthermore, to support employees in their personal development and enhance corporate competitiveness and sustainability, Nuvoton Taiwan advocates for the establishment of professional functions within each unit. In 2024, 7 competence workshops were conducted to redefine and refine the job content and professional skills for various positions. A total of 309 job descriptions and 964 professional functions were completed and integrated into the Company's core systems, including recruitment, performance management, talent development, and team building. Nuvoton Japan annually reviews the work skills of each position, creates a skill map, and sets annual training goals and plans for each employee based on this.

Nuvoton Japan offers educational and training sessions on environmental management to both internal staff and external participants. These sessions cover topics such as quality, environmental and occupational safety and health, general courses on ISO 50001, and internal audits for ISO 14001 and ISO 50001, engaging a total of 3,779 participants.



Course Categories	Nuvoton Taiwan	Nuvoton Japan
 <p>New hires</p>	<ul style="list-style-type: none"> From the moment new hires join, we offer comprehensive training courses to facilitate their quick integration into the Company culture and work environment. Alongside 15 online courses tailored for new hires, we arrange in-person training sessions to acquaint them with the Company's vision, culture, organizational structure, rules and regulations, as well as the various business groups and their products. They also acquire foundational knowledge and skills relevant to their roles. Furthermore, through the buddy system and new hire support mechanisms, we establish connections and provide necessary information and support, thus creating a rapid and effective network and support system for new hires during their initial stages. 	<ul style="list-style-type: none"> For fresh graduates, within one to two months of joining, we offer a training program encompassing business concepts, company overview, basic semiconductor technology knowledge, and other job-related skills. Through mentorship, we aid in developing communication skills essential for the role. Supervisors actively engage with new employees, systematically progressing through a 3-year on-the-job training program. Additionally, new hires participate in 26 online courses. At the end of the year, we conduct a comprehensive review and provide follow-up training for areas needing improvement. For experienced employees, we offer a two-day training program upon joining, covering corporate culture, company overview, and other basic knowledge and skills required for the job. During the first three months, necessary information and support are provided through the buddy system to help employees adapt to the workplace and form interpersonal networks.
 <p>Common</p>	<ul style="list-style-type: none"> Common courses include topics, such as the Company's vision and mission, corporate culture and values, corporate sustainability (including Responsible Business Alliance standards), customer satisfaction, quality management, and environmental health and safety (covering environmental protection and fire drills), among others. These courses are mandatory for all employees, regardless of their level, position, or department. Additionally, the Company introduces external online learning platforms for English and Japanese and offers corresponding subsidy programs to boost employees' motivations for self-directed learning and foster diverse language talents within the organization. 	<ul style="list-style-type: none"> Common online courses include business concepts, corporate culture, quality management, environmental safety, health, and information security, among others, which are mandatory for all employees regardless of their level, position, or department.
 <p>Professional</p>	<ul style="list-style-type: none"> For professional courses, at the factory level, we provide a range of professional certification training programs tailored to meet machine requirements. Furthermore, in line with the Company's strategic direction, we introduce courses focused on data science tools. These courses are facilitated by both internal and external professional instructors, and we integrate practical software tool applications into the training. Additionally, contractors are included in the training programs, covering environmental and safety courses, emergency response procedures, and regional safety precautions to ensure the safety of all personnel. 	<ul style="list-style-type: none"> In terms of professional courses, we organize various certification training programs within departments based on need, as well as data science-related tool courses aligned with the Company's strategic direction.
 <p>Managerial</p>	<ul style="list-style-type: none"> In 2024, we arranged regular advanced seminars titled "Topic-oriented Practical Experience Sharing" to keep senior executives updated on the latest trends in domestic and international industries. These seminars, featuring both internal and external experts, facilitated discussions and knowledge exchange, aligning the Company's development direction with external trends. In 2024, the Company actively promoted the development and cultivation of management talents, planned and offered diversified management courses to enhance the professional capabilities and forward-looking vision of managers at all levels. We have introduced the "Talent Development Strategy Simulation" to help managers establish long-term talent planning thinking; the "Senior Executive Accounting Series Courses" to enhance financial decision-making capabilities; and the "Innovative Leadership and Management Thinking" to cultivate leaders' innovative strategies for dealing with change. In addition, the True Colors personality assessment tool was introduced to promote team communication and collaboration, and AI Workshops were hosted to strengthen the application of management skills in the digital age. Meanwhile, both domestic and international experts were invited to give specialized lectures on industry trends and political-economic situations, ensuring that the management team possesses a global perspective and decision-making acumen. These training programs demonstrate the Company's commitment to talent development and, through continuous learning, drive the sustainable growth and competitive enhancement of the enterprise. 	<ul style="list-style-type: none"> Various training programs are available for managers at different levels, encompassing leadership seminars for senior executives, skill enhancement sessions for mid-level managers, and onboarding training for newly appointed managers.

External training

Nuvoton actively fosters a culture of lifelong learning by providing a variety of learning channels for all employees, including contractors and engineering assistants. The Company also supports their engagement with external learning resources from professional institutions both within Taiwan and abroad. This approach enhances professional skills, expands perspectives, and ensures alignment with the latest industry trends. Through post-training internal sharing and experience exchange, not only are employee job satisfaction and workplace competitiveness enhanced, but team innovation and knowledge transfer are also promoted, further solidifying the foundation for the Company’s sustainability. In 2024, the Company recorded a total of 183 external training participations, accumulating 1,527 training hours, demonstrating Nuvoton’s ongoing investment and commitment to talent development.

On-the-Job Education

To encourage continuous learning and self-improvement, Nuvoton has established the “On-the-Job Education Subsidy Policy,” covering master’s and doctoral degree programs at universities both domestically and internationally. This provides stable learning support, enabling employees to deepen their expertise in professional fields and strengthen their management capabilities. The initiative not only contributes to individual career growth but also fosters a passionate learning atmosphere within the enterprise, fulfilling the ESG goals of sustainable talent development.

Security Education and Training

The security personnel of Nuvoton Taiwan and the four plants in Japan are all provided by third-party units, totaling 49 individuals. Every year, educational training is conducted for them, including basic action training for security work, natural disaster response drills, and training lectures on relevant regulations and ethics. In addition to practical training in security operations, efforts are made to enhance the security personnel’s awareness of ethics and regulations.

Industry-Academia Collaboration

Nuvoton continues to accumulate innovative research and development capabilities through industry-academia collaboration, conducting forward-looking technology research to promote the sustainable development of the semiconductor industry and talent cultivation objectives.

Collaborating Units	Content
National Taiwan University	Nuvoton collaborates with Professor Tai-Cheng Lee from the Department of Electrical Engineering at National Taiwan University (NTU) on the “Low-Power ADC” project. This collaboration involves periodic analog course training and industry-academia cooperation, contributing to energy conservation and reducing carbon emissions.
National Yang-Ming Chiao Tung University	Assists in handling the TCAD simulation, verifying its feasibility, and enhancing product performance through understanding theoretical frameworks
National Cheng Kung University	Nuvoton partners with Professor Jar-Ferr Yang from National Cheng Kung University (NCKU), appointing him as the Nuvoton Chair Professor. Periodically, seminars on semiconductor technology are conducted in collaboration with NCKU
	In collaboration with National Cheng Kung University to implement Taiwan Chip-based Industrial Innovation Program, the Program aims to establish a highly scalable and sustainable AI fusion engine, spanning from software to hardware. This ensures that the fusion engine has a complete development process and environment, covering both existing and future AI applications.
	Nuvoton collaborates with Professor Lih-Yih Chiou from National Cheng Kung University (NCKU) focuses on research on the “Inference Calculation Logic Based on IMC-Core” project.
	Nuvoton’s project targeting Arm Ethos U55 involves the design of a compiler for machine learning inference algorithms, with TVM serving as a reference for the compilation process. During the implementation, incorrect compilation details are rectified.
Tokyo Institute of Technology, Toyohashi University of Technology, Hiroshima University	Efficient peripheral circuit models for cooperation with CIM (Computing-In-Memory) MAC (Multiply-Accumulator Calculator) are developed, serving as reference operational specifications for future CIM integration in circuit design
	A consortium comprising Tokyo Institute of Technology, Toyohashi University of Technology, Hiroshima University, five research institutes, and twenty private companies collaborates to drive the research and development of new integrated circuit technology. This initiative is critical for creating new markets, such as electric vehicles and augmented reality.
Kyoto Institute of Technology, Osaka Prefecture University, Osaka University	Nuvoton Japan collaborates with three universities to enhance the semiconductor industry’s presence and generate interest in semiconductor industry careers. In 2024, two semiconductor vocational education programs were conducted with a total of 80 participants over two sessions.

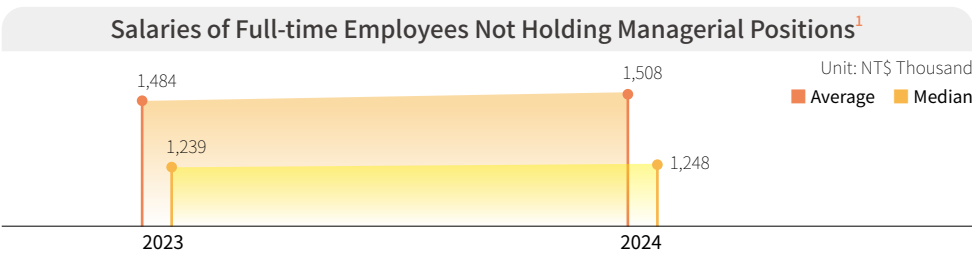
5.2.3 Remuneration and Benefits

Remuneration System

Nuvoton offers a reasonable fixed salary based on market levels and mandates in its company bylaws that a portion of profits, not less than one percent, should be allocated for employee compensation to ensure overall salary competitiveness. In addition to linking company performance with employee salaries, the Company provides comprehensive career development training programs. Regular assessments are conducted to evaluate employee performance and skill development, with corresponding salary adjustments based on performance and serving as a basis for promotions. Furthermore, Nuvoton offers a dual-track system for managerial and professional positions to ensure a healthy career advancement path for employees, motivating both employees and the Company to grow together.

Comparison of Standard Salary for Junior-Level Employees to Local Minimum Wage								
Year	2021		2022		2023		2024	
Company	Female	Male	Female	Male	Female	Male	Female	Male
Nuvoton Taiwan ¹	1.05	1.05	1.06	1.06	1.05	1.05	1.07	1.07
Nuvoton Japan ²	1.49	1.49	1.46	1.46	1.55	1.55	1.55	1.55

- 1 The minimum wage in Taiwan is NT\$27,470 in 2024, NT\$26,400 in 2023, and NT\$25,250 in 2022; Nuvoton Taiwan sets the starting salary for entry-level personnel based on the standard salary for grassroots employees.
- 2 In Kyoto, where the headquarters of Nuvoton Japan is located, the minimum hourly wage is 1,058 Japanese yen (about NT\$212/hour) in 2024, 1,008 Japanese yen (about NT\$202/hour) in 2023, and 968 Japanese yen (about NT\$194/hour) in 2022. Nuvoton Japan uses the starting salary of university graduates as the starting salary for grassroots employees.



1 Data synchronization can be accessed at: [Market Observation Post System](#) > Corporate Governance> Information of Directors and Supervisors > Summaries of compensation of employees, directors and supervisors

Ratio of Basic Salary and Remuneration of Women to Men

Company	Job Category ¹	Base salary		Total Compensation	
		Male	Female	Male	Female
Nuvoton Taiwan	Senior Executives	0.86	1	0.89	1
	Supervisory Personnel	1.20	1	1.21	1
	Professional Personnel	1.19	1	1.22	1
	Engineering Personnel	1.13	1	1.12	1
	Non-Engineering Personnel	0.98	1	1.00	1
	Direct Personnel	0.94	1	0.96	1
Nuvoton Japan	Supervisory Personnel	1.04	1	1.09	1
	Non-Supervisory Personnel	1.07	1	1.07	1

1 Senior executives refer to managers at the center level and above; supervisory personnel are section-level supervisors and above, excluding senior executives; non-supervisory personnel include professionals, engineering personnel, non-engineering personnel and direct personnel.

In 2024, there was a slight disparity in the gender pay ratio between supervisory personnel and professionals at Nuvoton Taiwan. The primary reason for this disparity is that male students still dominate the enrollment in related engineering departments for supervisory personnel and professionals. Since engineering positions typically offer higher salaries, the pay ratio varies due to differences in job categories. Nuvoton Japan has a male-to-female ratio of approximately 9:1. Salaries differ based on job levels. The primary reason for this disparity is that more men occupy key positions and organizational management roles, which come with higher salaries, leading to a difference in salary ratios.

Performance Evaluation System

In accordance with the performance management and evaluation procedures, Nuvoton conducts two performance evaluations annually. Additionally, real-time feedback is provided on a regular basis to understand the realization of employee goals, employee behaviors, and improvements, among other aspects. New employees will undergo a probationary evaluation, and the evaluation results will serve as the basis for determining continued employment.




Evaluation Type	Target Audience	Frequency	Execution Method
Goal management	All employees	Once a year	At the beginning of the year, employees propose work plans and quantifiable performance indicators, discuss with supervisors to set annual goals, review goal achievement status with supervisors every six months, and receive feedback from supervisors.
Performance evaluation	Indirect staff	Every six months	Performance evaluations are conducted biannually, when supervisors assess employees' performance and goal achievement over the past six months. For employees engaged in cross-departmental or project work, supervisors may adopt a multi-faceted evaluation approach, gathering feedback from peers, cross-departmental supervisors, or other employees.
Daily communication and feedback	All employees	Real-time	Through daily management, one-on-one performance communication can be conducted at any time, providing employees with necessary support and guidance on a real-time basis.

Additionally, Nuvoton provides comprehensive career development training programs, regularly assessing employees' performance and development, aligning compensation with performance, and using these assessments as a basis for promotion. In 2024, the annual performance evaluation rate for Nuvoton Taiwan, Nuvoton Japan and overseas subsidiaries was 100%, and the performance evaluation was conducted according to the Company's regulations, excluding those on unpaid leave, with less than three months of service, consultants, fixed-term contract employees and direct personnel.

Percentage of Employees Undergoing Regular Performance and Career Development Reviews in 2024										
Job Category		Nuvoton Taiwan			Nuvoton Japan			Overseas Subsidiaries		
		Managerial Positions	Non-managerial Positions	Total	Managerial Positions	Non-managerial Positions	Total	Managerial Positions	Non-managerial Positions	Total
Number of employees required to undergo performance evaluation	Female	26	271	297	3	145	148	18	114	132
	Male	162	695	857	328	1,082	1,410	90	204	294
	Subtotal	188	966	1,154	331	1,227	1,558	108	318	426
Actual number of employees that underwent performance evaluation		188	966	1,154	331	1,227	1,558	108	318	426
Percentage of employees that underwent evaluation		100%	100%	100%	100%	100%	100%	100%	100%	100%

Employee Benefits

Nuvoton has a comprehensive welfare system, with offices around the world designing and providing employee benefits that meet or exceed statutory standards in accordance with local regulations. Among them, in order to allow Taiwanese employees to balance personal and family care needs, in addition to adopting flexible working hours based on job attributes, Nuvoton Taiwan also provides 7 days of LOHAS leave each year (a total of 19 days including statutory national holidays). From the date of employment, employees are covered by group insurance, which includes accident, illness, and hospitalization insurance plans, and comprehensively protected for health. Employees can also add their dependents into the preferential group insurance plan, thereby their family members are also covered.

Category	Benefits	
 Salary benefits	<ul style="list-style-type: none">▲ A comprehensive and competitive salary system▲ Mid-Autumn Festival, Dragon Boat Festival and Year-end Bonuses (depending on company performance)▲ Bonus dividends (subject to company profits, organizational goal attainment rate, and individual performance)▲ Birthday vouchers, holiday vouchers and Labor Day vouchers▲ Travel and recreational subsidies	
 Employee care	<ul style="list-style-type: none">▲ Labor and health insurance, group insurance▲ Annual employee health check-ups▲ Wedding and funeral subsidies, maternity subsidies▲ Childcare subsidies for ages 0-4 (Nuvoton Taiwan)▲ Scholarship and subsidy system for age 0-18 (Nuvoton Japan)▲ Comprehensive retirement system▲ Lunch and dinner subsidies▲ Reserved parking for pregnant employees▲ Comfortable and clean lactation room	
 Leave policies	<ul style="list-style-type: none">▲ New employees enjoy seven days of LOHAS leave (full-paid leave) in their first year (Nuvoton Taiwan)▲ Milestone challenge vacation (30, 40, 50 years old) 10 days (Nuvoton Japan)▲ Flexible working hours	
 Enjoyment at Nuvoton	<ul style="list-style-type: none">▲ Club activities, festival gatherings, family days, annual banquets▲ Occasional afternoon tea, office snacks▲ Leisure facilities (fitness equipment and aerobics classrooms)▲ Discounts at thousands of partner merchants▲ Occasionally, we host family days and distribute gifts (depending on company performance)	



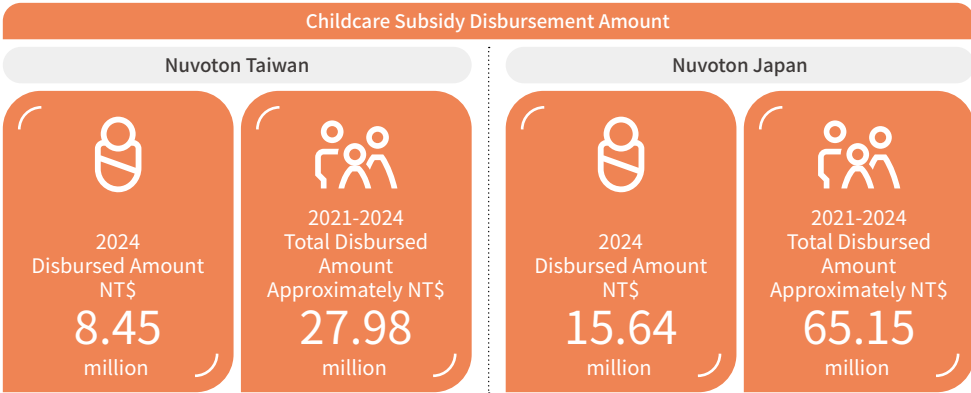
In addition to the basic employee benefits mentioned above, we have a diverse welfare system, including the Employee Welfare Committee, employee club activities, encouragement for childcare programs, and maternity leave. Nuvoton Taiwan has an Employee Welfare Committee, composed of employees nominated by various departments. It is responsible for coordinating, planning and implementing various welfare measures. All employees enjoy the same employee welfare programs. In addition to various welfare subsidies, we distribute electronic gift coupons for three festivals, Labor Day, and birthdays every year. This initiative aims to reduce the carbon footprint associated with transportation and promote sustainable living among our employees. Nuvoton also collaborates with vendors to provide discounts through a mobile app, enabling employees to conveniently enjoy discounts from partner merchants. This app digitizes identification cards, facilitates access to contracted stores, and offers group purchase features. This system makes it easier for employees to enjoy benefits and ensures they can access various discounts in daily life while focusing on their work.

Nuvoton encourages employee clubs to actively organize various activities by providing subsidies and implementing an evaluation system. Through shared interests or professional development, employees can enjoy a relaxed and stress-free life after work, helping to relieve work-related pressure and promote health and vitality. These clubs also serve as a new channel for fostering interaction and connection among colleagues.

In 2024, Nuvoton’s family day event held at Taoyuan Puxin Ranch attracted a large number of employees and their families. The event, centered around the spirit of ESG, achieved electronic operations and integration with SDGs principles. The site was equipped with abundant facilities and performances, including open-air markets and orchestra performances.



Nuvoton places great importance on the topic of Taiwan’s declining birthrate and encourages employees to marry and have children. In addition to offering benefits beyond legal requirements, such as maternity leave, paternity leave, family care leave, and marriage leave, Nuvoton Taiwan also provides childcare subsidies for children aged 0-4. Each employee can receive up to NT\$240,000 in subsidies per child over a total of 4 years. Nuvoton Japan offers a childcare education subsidy, providing 10,000 Japanese yen (about NT\$ 2,006) per month for each child of an active employee, with the subsidy available until the child turns 18. In 2024, a total of 41 employees at Nuvoton Taiwan applied for childcare subsidies, with a cumulative number of 315 applications, and the total amount disbursed in Nuvoton Taiwan was NT\$8.45 million, with a total of approximately NT\$27.98 million disbursed from 2021 to 2024. In 2024, a total of 452 employees at Nuvoton Japan applied for childcare subsidies, with a cumulative number of 1,818 applications. The total amount disbursed was 77.97 million Japanese yen (about NT\$ 15.64 million), with a total of approximately 324.78 million Japanese yen (about NT\$ 65.15 million) disbursed from 2021 to 2024.



Nuvoton adheres to the gender quality in Employment Act, fully supporting employees in need by allowing both male and female workers to apply for parental leave according to the relevant procedures, supporting them during important life stages. In 2024, 11 employees at Nuvoton Taiwan applied for parental leave. Of the 12 employees scheduled to return from leave, 8 chose to return, resulting in an 66.67% return-to-work rate. Additionally, of the 7 employees who returned in 2022, 6 continued to work for at least one year, with a retention rate of 85.71%. At Nuvoton Japan, 7 employees applied for parental leave. The number of employees who were originally expected to return after the full year of parental leave was 9, while 6 employees chose to return after completing their leave, resulting in a return-to-work rate of 66.67%. Additionally, of the 7 employees who returned in 2023, 5 continued to work for at least one year, with a retention rate of 71.43%. For detailed parental leave data, please refer to [Appendix 2: Social Data](#).

Employee Protection Measures During Organizational Restructuring

In the event of a merger, acquisition, organizational restructuring, or other operational strategy adjustments that necessitate large-scale workforce reductions, the Company will strictly comply with the relevant laws and regulations of the countries and regions where it operates. In addition to legally mandated severance payments, the Company will provide necessary support to employees who meet the application criteria for local government subsidies, assisting them in the relevant application procedures. Furthermore, the Company will plan and implement career transition programs to help employees smoothly transition, thereby fulfilling the corporate social responsibility.

5.3

Occupational Safety and Health

Nuvoton prioritizes the health and safety of its employees as the utmost management focus, and is dedicated to meeting international safety, health, and environmental standards. We pledge to always provide a legal and compliant working environment, continuously improving and mitigating risks that could lead to illness or injury of personnel.

Our aim is to foster a positive working environment and establish a “Safety, Health, and Environmental Protection Policy,” committed to achieving zero occupational accidents, and promoting employee health responsibilities. Through the active participation of all employees, we strive to continuously enhance our efforts to reduce the rate of personnel disability and injury, optimize resource utilization, minimize the use of chemical materials, and implement the concept of “designed for environmental and safety and health.” Our goal is to become a sustainable green enterprise through these practices.



Key Achievements

Nuvoton has demonstrated its commitment to employee health and well-being by actively implementing relevant systems and actions to promote workplace safety and health management. In 2024, the Company was awarded the “Outstanding Enterprise” honor in the “113th Proactive Evaluation of Occupational Health and Safety Indicators in Corporate Sustainability Reports” by the Occupational Safety and Health Administration of Ministry of Labor, ranking among the top 10% of companies. This recognition highlights Nuvoton’s strong emphasis on occupational health and safety issues and its continuous efforts for improvement.

The Occupational Safety and Health Administration promotes this evaluation to encourage companies to fulfill their ESG responsibilities, guiding the industry to value and strengthen the sustainable value of a healthy workforce. Based on the international GRI 403 Occupational Health and Safety standards, the administration has developed practical disclosure guidelines for companies to follow when preparing their sustainability reports. In 2024, a total of 1,062 companies participated in the evaluation. Companies were categorized into four groups based on their capital size, with the top 10% selected from each group as outstanding enterprises. Nuvoton stood out from numerous companies, demonstrating its leadership in occupational health and safety management systems, risk prevention mechanisms, and performance disclosures.

Nuvoton will continue to deepen its practices in occupational health and safety, strengthen its safety culture, and create a healthy, secure working environment, aiming towards the goal of sustainable business operation.



5.3.1 Workplace Safety

Nuvoton values the physical and mental health and safety of its employees. In compliance with ISO 45001 standards and local regulations, we have established an Occupational Safety and Health Management System based on the “Plan-Do-Check-Action” management cycle, and developed management manuals and standard procedural documents. Both Nuvoton Taiwan and Nuvoton Japan production sites have obtained ISO 45001 “Occupational Safety and Health Management System” certification¹. All workers are 100% included in this management system, internal audits are conducted every six months, and third-party audits are conducted every year to ensure the effective operation of the management system. In addition, risk assessments are performed regularly to identify and eliminate potential hazards. Through occupational safety and health meetings in each division, we consistently advance our occupational safety and health initiatives, which include senior executive inspections, work safety observations, and other measures. Nuvoton Japan also continuously strives for improvement and encourages employees to actively engage in fostering a healthy and safe working environment. We have implemented an “Environmental Safety and Health Management Performance Promotion” (ESH) scoring mechanism to regularly assess the performance and contributions of each unit in various aspects and award bonuses to recognize their efforts.

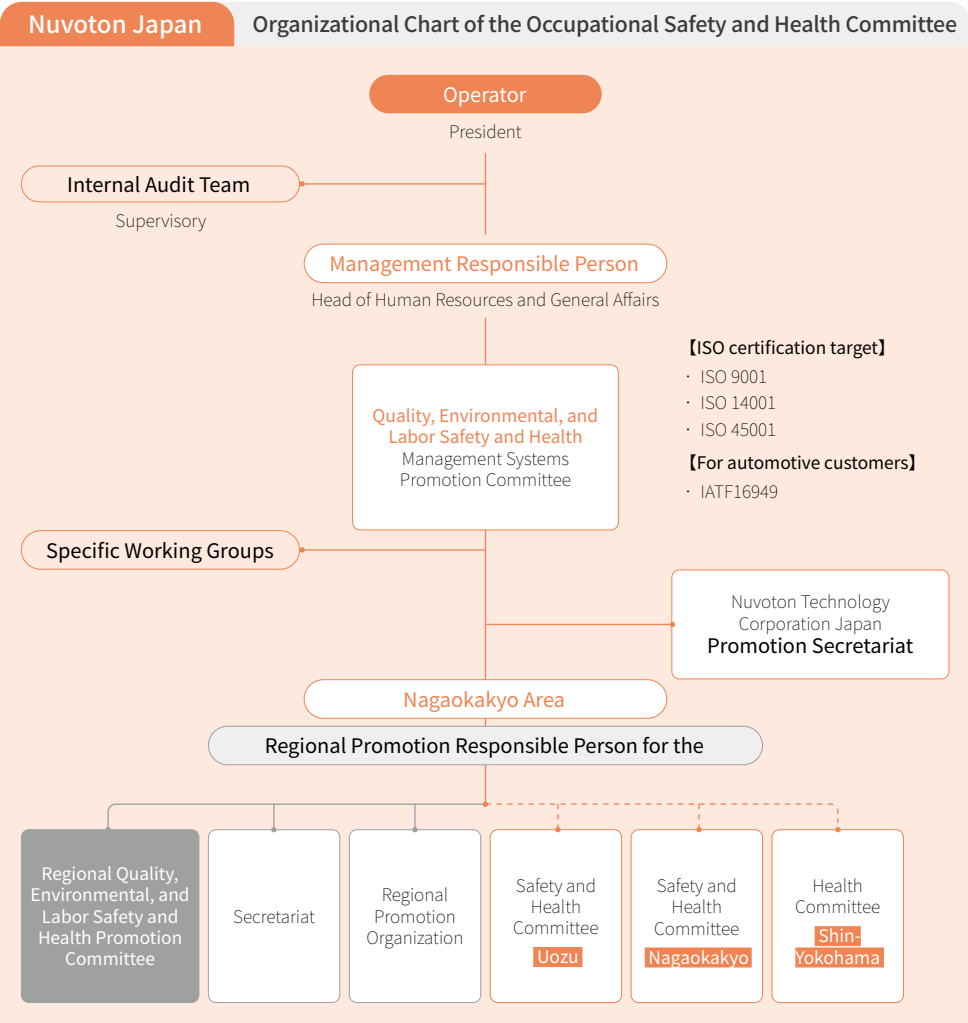
Nuvoton Taiwan complies with the Occupational Safety and Health Administration Regulations of Taiwan by establishing a dedicated first-level unit, staffed with supervisors and managers specifically tasked with overseeing occupational safety and health affairs. This includes 2 first-class occupational safety and health supervisors, 2 occupational safety (health) managers, 3 occupational safety and health managers, and 2 nurses. Similarly, in compliance with the Japanese Occupational safety and health Law, Nuvoton Japan appoints personnel to fulfill specific roles aimed at promoting safety and health policies. This includes 1 safety and health manager, 1 safety manager, 4 health managers, and 1 industrial doctor. These individuals are responsible for promoting safety and health policies, conducting investigations, identifying hazards or risks, and spearheading voluntary safety and health activities to enhance workplace safety. This configuration ensures that we can effectively manage and promote occupational safety and health work, providing employees with a safe and healthy working environment.

Both Nuvoton Taiwan and Nuvoton Japan have established Occupational Safety and Health Committees that convene quarterly and monthly meetings respectively to address safety, health, and wellness concerns, promote related activities, and ensure adequate communication. In Nuvoton Taiwan, the committee is chaired by the president and comprises 14 members, including occupational safety and health personnel, health management personnel, management representatives, and labor representatives. Notably, 8 out of the 14 members are labor representatives, accounting for 57% of the committee. In Nuvoton Japan, the committee includes a chairman and a vice-chairman, along with company members from various departments and an equal number of union members.

Nuvoton Taiwan has instituted the Environmental, Health, and Safety Management System Participation Consultation and Communication Procedure and established both internal and external communication channels, including supervisors, safety management units, business responsibility units, safety and health personnel or labor-management conference representatives, proposal improvement forms, internal websites, and ESG mailboxes. All employees are encouraged to actively engage and are safeguarded from any form of retaliation when reporting accidents, hazards, risks, or opportunities.



¹ For data on the number of people covered by the ISO 45001 “Occupational Safety and Health Management System,” please refer to [Appendix 2: Social Data](#).



Major Resolutions of the Occupational Safety and Health Committee in 2024

Major Safety and Health Resolutions

Major Health Resolutions

Nuvoton
Taiwan

- Continued promotion of safety culture
- Passing the Review of Class A Hazardous Workplaces through re-evaluation every five years
- Continued promotion of regional environmental health and safety management platforms to establish a safe working environment
- Chemical risk assessment and management, implementation of regular environmental monitoring measures
- Continuous enhancement of safety and health education training quality
- Implementation of subcontractor management and operational safety control
- Periodic identification of regulatory changes and response measures to ensure regulatory compliance

- Health management and health promotion initiatives
- Active cancer prevention, increasing screening willingness and numbers, reducing severity, and protecting employee health
- Continued management of overloads, prevention of human hazards, maternal protection, and prevention of illegal infringements
- Promotion of health management plans for middle-aged and elderly workers
- Provision of health checks and personalized assessment consultations for high-risk individuals

Nuvoton
Japan

- Emergency measures for buildings, equipment, workplaces, or operations with potential hazards
- Regular inspection of safety equipment, protective equipment, and other devices aimed at preventing hazards
- Education and training on operational safety
- Investigation of causes of accidents and research on countermeasures
- Supervision by other safety-related assistants, such as supervisors
- Preparation, collection, and handling of safety-related information
- Prior research and review when adopting new equipment or production methods
- Fire drills and evacuation exercises, as well as related matters derived from or associated with the aforementioned items

- Detection of abnormal health conditions and related measures
- Investigation of workplace environmental hygiene
- Improvement of working conditions and facility hygiene
- Inspection and maintenance of labor hygiene equipment, first aid equipment and so on
- Health education, provision of health information, and other necessary measures to maintain employee health
- Implementation of health checks and adoption of measures to maintain employee health based on the results
- Immediate adoption of necessary measures to prevent harm to workers' health when operational methods or conditions may be harmful to health



Safety Culture

Nuvoton remains steadfast in its commitment to fostering a safer and healthier working environment. Through measures such as training, policy formulation, risk assessment, and safety inspections, we actively promote a workplace safety culture, fostering employees’ awareness of “prioritizing safety and health” to achieve the goal of zero occupational accident.

Nuvoton Taiwan regularly conducts operational observations to cultivate employees’ ability to analyze potential hazards, encourage safe behavior, and improve unsafe operational methods through discussions to achieve hazard prevention. Additionally, we have implemented an ESH scoring mechanism, and conduct quarterly safety and health topic quizzes to enhance employees’ safety awareness and address occupational safety issues.

To improve on-site safety, Nuvoton Taiwan conducted an analysis of the increasing trend of slip and fall incidents from 2017 to 2023. In 2024, we implemented a prevention plan that involved optimizing cleanroom aisle markings, repairing the lobby canopy to mitigate wet and slippery hazards, and enhancing uneven flooring. This initiative successfully resulted in 0 slip and fall occupational accident. At the same time, we have advanced improvement projects for firefighting facilities and equipment, including the upgrade of 51 emergency lights, the addition of 1 fire door linkage system, the replacement of 9 fire sprinkler heads in ductwork, and the modernization of 1 outdated fire foam pump system to enhance disaster prevention effectiveness. In addition, the pickling tank leakage prevention equipment modification project reduced the risk of liquid leakage injury by 49% to continuously enhance work safety. The total annual improvement investment is NT\$ 5.35 million, aimed at creating a safer working environment.

Occupational Safety and Health Risk Assessment and Management

Nuvoton Taiwan has established the “Occupational Safety and Health Risk Assessment Procedure” to continuously assess the potential risks and impacts of various activities, products, services, environment, personnel safety and health, energy usage and so forth, including physical, chemical and human factors, resource consumption, environmental emissions, emergency anomalies and so forth, and to confirm the effectiveness of existing protective and control measures.

Based on the risk level, we adopt the following control measures: elimination, substitution, engineering controls, signage/warnings/administrative controls, and personal protective equipment (PPE). Each unit conducts a risk assessment review at least once a year and reassesses before changes or after incidents to prevent the emergence of new risks.

At Nuvoton Taiwan, each unit is required to proactively report changes in information and utilize digitalization system to facilitate change risk assessments. In 2024, we evaluated 11 Process/Product Change Notices (PCNs) from raw material suppliers and received 13 change risk assessment applications, including 4 for chemical changes and 9 for mechanical equipment changes.

Nuvoton Japan analyzes accident causes from multiple perspectives, conducts risk assessments, and formulates improvement measures. The 2024 achievements include a completion rate of 101% (1,247/1,235) for risk assessments and improvement projects, including 248 projects to enhance chemical management and 43 projects to improve high-temperature working environments. These measures have promoted the improvement of risk management and compliance as well as occupational health and safety performance.

Nuvoton Taiwan passed the five-year periodic review for Class A hazardous workplaces in 2024, applied the HAZOP method for equipment process safety assessment and completed chemical incompatibility analysis.

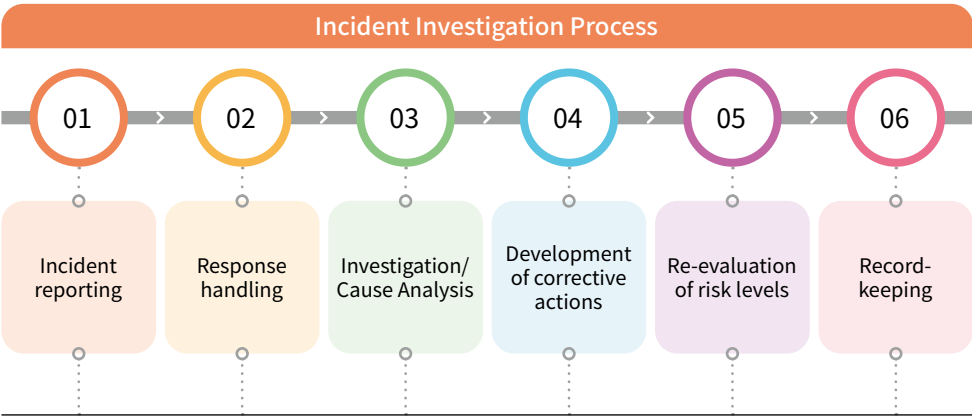


Accident Investigation and Prevention

Nuvoton is committed to the goal of “zero occupational accident,” and prioritizes accident handling, investigation, and prevention. Nuvoton Taiwan has established the “Environmental, Health, and Safety Incident Reporting and Investigation Procedure,” encompassing accident reporting, investigation, and improvement protocols. Similarly, Nuvoton Japan adheres to the “Serious Disaster Reporting Rules” to notify management and relevant units.



For major accidents, including personnel injuries, complete plant shutdowns, or regulatory violations, we assemble an investigation team to carry out inquiries and develop corrective actions, while reevaluating risks. For minor incidents, improvement measures are proposed by the unit involved in the accident and validated by the safety department to ensure risk reduction and prevent recurrence.

We have established a comprehensive system for incident reporting, handling, investigation, and tracking of improvement measures. The outcomes of incident improvements are regularly monitored and verified by the Occupational Safety and Health Committee quarterly to forestall the recurrence of accidents and ensure the safety of employees, visitors, contractors, and all stakeholders. According to procedural guidelines, employees are empowered to stop operations and retreat to a safe location immediately upon identifying an imminent danger, and report to their supervisor promptly. The exercise of this right of refusal does not result in dismissal, transfer, or any other adverse action.



Hazardous Chemical Management and Workplace Monitoring

Nuvoton is committed to the management of hazardous chemicals and adopts the following measures:

 Exposure Assessment Model	Construct a chemical exposure assessment model to evaluate the risk level of chemical usage and management methods
 Management of Chemical Raw Materials	Establish the “Chemical Material Safety, Health, and Environmental Management Regulations” to ensure the comprehensive evaluation and control of various chemicals, as well as their procurement and acceptance processes. User units are required to furnish safety data sheets in both Chinese and English (in Japanese for Nuvoton Japan). Subsequently, a risk assessment application is submitted for review. Upon confirmation of requisite safety, health, and environmental response measures, acceptance and utilization of the materials can commence.

To minimize the impact of hazardous substances on employee health, priority is consistently given to the evaluation of low-hazard chemicals. In 2022, the replacement plan for the reproductive toxic substance NMP was initiated by Nuvoton Taiwan and officially launched in August 2023. As a result, the use of NMP was reduced by 99.9% in 2024. Currently, NMP is only used in the mixed photoresist materials that cannot be replaced in process. The process employs enclosed equipment and engineering controls to prevent exposure, and employees are regularly trained on proper operational procedures.

Nuvoton Taiwan has established the “Working Environment Monitoring Management Regulations” and formulated a working environment monitoring plan in accordance with legal requirements. Every six months, the Company conducts working environment monitoring at all operational sites across Taiwan, including noise, lighting, radiation, carbon dioxide, and chemical hazards. Chemical sampling monitoring is then carried out in areas with chemical exposure. In addition to the 17 legally required items, an extra 10 hazardous chemicals are autonomously monitored to ensure workers potentially exposed to high-risk chemicals are included. The Company proactively provides relevant protective equipment and reduces employee exposure through engineering control measures. The monitoring results are announced by the Safety and Health Management Unit to keep all employees informed and are archived for future reference. The results serve as a reference for subsequent health check-ups and work assignments, aiming to prevent occupational diseases. The monitoring results in 2024 were all lower than the permissible concentration for occupational exposure, and fell in Level I Management.

Occupational Accidents and Occupational Diseases

Nuvoton deeply understands that employee safety and health are the cornerstone of corporate success. We have compiled occupational accident data for facilities in Taiwan and Japan, excluding commuting accidents. In 2024, there were no fatal occupational accidents, severe occupational injuries, or occupational diseases among employees.

The occupational hazard statistics for Nuvoton Taiwan are based on data reported to the Ministry of Labor, calculating the disabling injury frequency rate (FR), the disabling injury severity rate (SR), and the occupational accident rate per thousand workers. In 2024, the disabling injury frequency rate (FR) was 0.32 (0.55 for males and 0 for females), the disabling injury severity rate (SR) was 2.91 (5.01 for males and 0 for females), and the occupational accident rate per thousand workers was 0.63. There was 1 case of employee disabling injury (chemical splash), 0 case of non-disabling injury, 0 case of non-employee disabling injury, and 1 case of non-disabling injury (fall due to loss of balance). In 2024, there were 3 cases of disabling injuries among Nuvoton Japan employees (1 case of fall and 2 cases of cuts).

We have conducted accident investigations and root cause analysis, and requested responsible units to develop improvement measures to enhance unsafe environments and improve employees' hazard awareness and response capabilities.


Occupational Injury Statistics						
2024 Indicators	Nuvoton Taiwan		Nuvoton Japan		Overseas subsidiaries	
	Employees	Non-employee	Employees	Non-employee	Employees	Non-employee
Total working hours (A)	3,086,744	161,160	4,048,728	526,353	933,228	5,553
Number of fatalities due to occupational injuries (B)	0	0	0	0	0	0
Number of severe occupational injuries (C)	0	0	0	0	0	0
Population with recordable occupational (disabling) injuries (D)	1	0	3	0	0	0
Fatality rate due to occupational injuries (B/A×1,000,000)	0	0	0	0	0	0
Severe occupational injury rate (excluding fatalities) (C/A×1,000,000)	0	0	0	0	0	0
Recordable occupational injury rate (disabling injury frequency rate) (D/A×1,000,000)	0.32	0	0.72	0	0	0



Occupational Safety and Health Education and Injury Prevention


Nuvoton is committed to enhancing employees’ understanding of safety and health management systems and operational standards, reducing environmental impact, and improving workplace safety. A series of environmental, safety, and health education and training programs are planned. These include:

Basic Safety and Health Education Training



New and existing employees must undergo a three-hour training session before starting or changing job.

Specialized Training



For example, those involved with hazardous chemicals are required to attend an additional three-hour training session covering work safety, protective measures, and emergency response techniques.

Nuvoton Taiwan organizes both in-person and online courses annually based on the training plan to enhance employees’ risk awareness, hazard prevention, and emergency response capabilities. In 2024, a total of 90 safety and health education training sessions were conducted (including 28 mandatory courses with a 100% attendance rate), with a total of 3,652 participants and an overall attendance rate of 97.8%. The course satisfaction rating was 4.9 out of 5. Additionally, 81 contractor engineering training sessions were held, with a total of 445 participants.

Nuvoton Japan conducts an annual comprehensive training on environmental and occupational health and safety. Each department also has its own specialized training program. In 2024, Nuvoton Japan’s comprehensive environmental and occupational health and safety training involved a total of 1,845 trainees, and 19 employees participated in professional training (chemical substance managers/ protective equipment wearing managers). 35 participants attended ISO 45001 internal audit retraining, and 75 employees attended risk assessment execution training. At the same time, we have planned KYT (Kiken Yochi Training) for employees working in laboratories, measurement rooms, and analysis rooms. A total of 504 employees participated in the training to cultivate their ability to identify potential hazards and take preventive measures in advance.

Contractor Safety Management

Nuvoton Taiwan remains steadfast in preventing contractor accidents and enhancing safety awareness. The Company’s occupational health and safety policy applies to contractors and the “Contractor Safety, Health, and Environmental Management Regulations” covering the following aspects are implemented:

- Preventive management and audit system: Ensure a safe working environment and work safety, and maintain the physical and mental health of workers
- Safety, health, and environmental management regulations: Ensure that contractors implement safety management mechanisms while working on-site, achieving the goal of zero workplace injuries
- Management of working environments involving different risks: Classify 5 types of risky working environments, strengthen safety precautions and emergency response procedures, and combine irregular audits with walk-around management to enforce safety policies

The disability injury rate of contractors in the past six years is 0. The project contracting unit customizes hazard notification items based on the nature and scale of the work area and informs contractors before operations commence. Regularly review and enhance safety management. If the working environment or construction content changes, hazard notification items will be modified and communicated to contractors.



In 2024, Nuvoton Taiwan held 81 contractor engineering training sessions, with a total of 445 participants trained. In addition, a Contractor Zero Accident Advocacy Conference was held. 42 representatives of 36 manufacturers participated. We are jointly committed to moving towards the goal of “a sustainable enterprise with a healthy workforce.”

Nuvoton Japan holds safety and health meetings with contractors within the plant premises to coordinate operations and manage comprehensive safety and health efforts. To prevent workplace injuries, Nuvoton regularly conducts safety and health meetings with both internal and external contract manufacturers to coordinate operations and manage comprehensive safety and health efforts. Additionally, third-party liaison meetings are held within each region, with 55 participants in 2024, to emphasize awareness of occupational safety and health activities and precautions against accidents. Regarding construction and related matters within the plant premises, a safety standard for on-site construction has been established, using construction confirmation forms to verify permits for on-site operations, safe work content, and emergency response measures.



2024 Contractor Zero Accident Advocacy Conference - “Nuvoton Taiwan Occupational Safety Contractor Family”

Emergency Response Measures

Nuvoton has established emergency response procedures and recovery plans to address internal abnormal accidents and external natural disasters. These procedures serve as a basis for each internal unit to formulate response processes, organize response personnel, conduct drills, and provide training.

In 2024, Nuvoton Taiwan carried out practical fire training for 224 participants and refresher training for emergency response teams for 449 participants. These sessions aimed to improve employees’ disaster prevention awareness, emergency response skills, and proficiency in using protective equipment.

In 2024, Nuvoton Taiwan carried out 68 emergency drills with 1,919 participants, addressing scenarios like earthquakes, fires, chemical leaks, gas leaks, system anomalies, and effects on nearby facilities. Every year, we collaborate with local authorities. In 2024, we worked alongside the Hsinchu Science Park Administration’s Joint Defense Team and the Hsinchu City Environmental Protection Bureau’s toxic disaster response unit to conduct 8 joint drills. Additionally, we recommended 41 members of our emergency response team to participate in the Hsinchu City Corporate Volunteer Firefighting Program. This initiative aimed to enhance our independent disaster prevention capabilities and ensure the safety of both the Company and its employees. As a result, we received a letter of appreciation from the Hsinchu City Government and the Science and Technology Management Bureau.



5.3.2 Healthy Workplace

Nuvoton Taiwan prioritizes employee health management and promotion as a critical business strategy to enhance the Company’s competitiveness. Its health management framework aims for comprehensive health management, built on four main pillars: occupational health, health management, health promotion, and health services.

For occupational health, we refer to the Occupational Safety and Health Act and various guidelines, such as overload prevention, prevention of human factor hazards, maternity protection, health protection for middle-aged and elderly workers, prevention of unlawful infringement, respiratory protection and so forth, and implement health protection plans in cooperation with safety and health management units, human resources, and employers.

For special operations, health management and safety units implement source control by adhering to principles, such as elimination, substitution, engineering controls, administrative controls, and the use of personal protective equipment to prevent and mitigate occupational diseases.

Health management and promotion are conducted through tiered management based on examination results, providing health promotion measures to maintain employee health. Health promotion activities are organized, such as lectures and participation in sports clubs, to boost employee engagement and health awareness, as well as to promote smoking and betel nut cessation.

In addition, we also provide various health services for Nuvoton Taiwan employees and non-employees who work under supervision at the workplace, such as arranging health check-ups, nursing consultations, injury and illness care, vaccination, and health assistance for employees on business trips. In 2024, Nuvoton experienced no occupational disease.









Health Management Framework









Nuvoton Taiwan has appointed and reported 2 nursing personnel to manage labor health services in compliance with the Occupational Safety and Health Act. They have fulfilled the labor health services outlined in Articles 9 to 11 of the Labor Health Protection Regulations. In Nuvoton Japan, 1 full-time doctor, 2 full-time public health nurses, 2 full-time nurses, 1 part-time nurse, and 1 public health nurse have been hired. These professionals are responsible for health management and promotion among workers, ensuring a safe and healthy working environment, enhancing employee health awareness, and reducing the rates of abnormal health check-up results and disease incidence.

2024 Occupational Health Management Plan

Item	Content
 Establishment of health service units	<ul style="list-style-type: none"> Nuvoton Taiwan has established the health center. The center is staffed with nurses who are available 24/7 to provide services and emergency medical assistance. The health center has 2 private rest rooms where their privacy is protected. Nuvoton Japan has set up health management rooms at three locations nationwide. These rooms are responsible for conducting health check-ups and providing various health consultations.
 Convenient health management system	<ul style="list-style-type: none"> Nuvoton Taiwan has established a health management platform on the Company's website, and launched the platform's systematic health service management in 2024. Employees can more conveniently inquire about their personal annual health check-up reports and trend changes, make appointments for health clinics, receive information on various health promotion activities and lectures, and access a wealth of health education information. In 2023, Nuvoton Japan partnered with a health check-up organization, enabling employees to view their health examination reports online. Starting from 2024, all employees can use this service on the website to view health check-up reports from the past three years.
 On-site services / health clinics	<ul style="list-style-type: none"> Nuvoton Taiwan arranges for occupational disease specialists and family doctors from a medical center to visit the Company every month. They assist new employees with pre-employment physical examinations and provide consultations on annual health check-up reports. Additionally, they conduct post-employment evaluations for employees injured in accidents and make regular workplace visits. In 2024, a total of 202 consultations were conducted. Nuvoton Japan has established a Lifestyle Clinic in Japan to enhance employees' health literacy and provide activities and health guidance in the areas of "Diet", "Sleep" and "Exercise". In 2024, the clinic was used by 43 individuals.
 Emergency / first aid response	<ul style="list-style-type: none"> Nuvoton Taiwan has established accident reporting and handling procedures, deployed first aid personnel, and set up dedicated emergency hotlines with a synchronized emergency phone system in high-risk areas. In addition, we actively promote training courses in cardiopulmonary resuscitation (CPR) and automated external defibrillator (AED). Nuvoton Taiwan is equipped with 7 AEDs, 2 sets of forced oxygen supply system, as well as emergency medical supplies such as Hexafluorine and Diphoterine, while Nuvoton Japan has installed 3 AEDs in the Nagaokakyo plant.
 Regular health check-ups	<ul style="list-style-type: none"> Nuvoton Taiwan conducts special and general health check-ups annually for all employees and workers under supervision in the workplace. In 2024, a total of 1,322 employees participated in health check-ups, including 210 for special operations. Employees completed over 3,000 additional check-up items, including 239 colorectal cancer screenings and 56 oral cancer screenings subsidized by the Health Promotion Administration. In 2024, Nuvoton specifically offered free thyroid ultrasound screenings for employees aged 45 and above to care for the middle-aged and elderly group, with a total investment of approximately NT\$ 2.5 million. A budget has been allocated to provide screenings for employees under 45 years old in 2025. Nuvoton Japan conducts annual health check-ups, including stomach X-rays and colorectal cancer screenings for employees over 35. Since 2023, workplace injury accident check-ups have been conducted at the workplace, focusing on abnormalities in obesity, blood pressure, blood sugar, and blood lipids.
 Development of standard operating procedures for health management	<ul style="list-style-type: none"> Based on the health check-up results of its employees, Nuvoton Taiwan has implemented a five-level health management system. Employees with severe abnormalities are promptly arranged to seek medical treatment. In 2024, a total of 31 individuals were included in this category. Special operations are managed at four levels according to the Labor Health Protection Regulations. In 2024, 56 people were involved, all of whom fell into level one or two, and none were related to work.

2024 Health Promotion Services and Plans

Item	Content
<div>Cancer prevention program</div>	<ul style="list-style-type: none">According to statistics from the Taiwan Ministry of Health and Welfare, cancer has been the leading cause of death among Taiwanese people for over forty consecutive years. Nuvoton Taiwan has been actively promoting cancer prevention initiatives for many years. In addition to colorectal cancer, lung cancer, and other cancer screenings, a nasopharyngeal cancer screening program was introduced in 2024. This program was based on factors, such as age, gender, and family history of employees and non-employees under supervision at the workplace. As part of this initiative, 100 employees underwent nasopharyngoscopy at the ENT department, with an investment of approximately NT\$ 150,000. The results showed no cancer risk, and employees provided highly positive feedback on the program. In 2025, the Company will continue to extend its care to more employees.Nuvoton Japan, supported by the Health Insurance Association, has been actively promoting early cancer diagnosis and treatment for many years. Employees aged 35 and above can receive free gastric X-ray examinations and fecal occult blood tests for colorectal cancer during regular health check-ups; cervical cancer subsidies can be up to 5,500 Japanese yen (for those aged 20 and above), and breast cancer subsidies can be up to 6,500 Japanese yen (for those aged 40 and above). Approximately 2,400 people underwent preventive screening for colorectal, stomach, cervical, and breast cancers in 2024.
<div>Breast cancer screening for women (Three key checkpoints for complete screening)</div>	<ul style="list-style-type: none">Nuvoton Taiwan conducts a cancer screening event for women every year, ensuring three-point comprehensive examination. In 2024, free screenings were provided in plants, and a health check-up subsidy program was also introduced to encourage employees to visit medical institutions for examinations. This year, the participation rate of employees in this activity has increased by 7% compared to previous years.
<div>Health management plan for middle-aged and elderly workers</div>	<ul style="list-style-type: none">According to the “Safety and Health Guidelines for Middle-aged and Elderly Workers” issued by the Occupational Safety and Health Administration, Ministry of Labor, Nuvoton Taiwan’s average employee age in 2024 was 43. For employees aged 45 and above and workers in the non-employee workplaces under command and supervision, Nuvoton Taiwan continues to promote health management planning for the middle-aged and elderly group, completing the identification and assessment of workplace environmental hazards annually.In 2024, the management program targeted 649 individuals, achieving 100% completion of risk and hazard variable assessments for the working environment. Additionally, free thyroid ultrasound examinations were provided to over 600 individuals, and those with abnormalities were referred for medical treatment.

Item	Content
<div>Workplace health care activities</div>	<ul style="list-style-type: none">▲ In 2024, Nuvoton Taiwan organized 11 lectures covering subjects like cardiovascular risks linked to metabolic syndrome and the “Three Highs” (hypertension, hyperlipidemia, and hyperglycemia), stress management and quality sleep, autonomic nerve balance, and effective communication in parenting, relationships, and the workplace. These sessions attracted a total of 1,122 participants.▲ In 2024, Nuvoton Japan partnered with external organizations to launch the “Short-term Vegetable Testing” program. This initiative encouraged employees to boost their vegetable intake by measuring their vegetable consumption and skin carotenoid levels. A total of 312 employees took part in the program. Within the lifestyle clinic, a three-year program, monthly interviews are held to offer participating employees guidance on various lifestyle habits. Lastly, we actively encouraged employees to participate in three walking events organized by the Health Insurance Association. To date, 517 employees have joined, each aiming to exceed 8,000 steps per day to rejuvenate their exercise habits.
<div>Influenza vaccination</div>	<ul style="list-style-type: none">▲ In 2024, Nuvoton Taiwan continued to provide free flu vaccinations to all employees, with 718 individuals vaccinated, resulting in a company-wide vaccination rate of 45.3%. Additionally, the Company also extended care to family members, providing resources for them to get vaccinated as well.▲ Nuvoton Japan promoted the use of flu vaccinations supported by the Health Insurance Association, recording 416 vaccination cases in 2024 (including family members).
<div>Employee assistance program (EAP)</div>	<ul style="list-style-type: none">▲ Nuvoton has long partnered with professional mental health institutions, offering each employee at least three free consultations per year, encouraging employees to utilize this service actively. In 2024, the usage rate was 4.7%, and a lot of positive feedback was received from employees, leading to a satisfaction rating of 93.3%.

Workplace Protection Plans

Nuvoton continues to develop various protection and management plans for different job groups in accordance with the Occupational Safety and Health Act, so as to provide all employees with a safe, secure, and healthy working environment.

Plan Name	Brief	2024 Achievements
Human factor hazards prevention plan	<ul style="list-style-type: none">▶ To prevent repetitive tasks or incorrect posture from causing musculoskeletal injuries among employees, we conduct an annual survey during the yearly health check-ups using the Nordic Musculoskeletal Questionnaire (NMQ). Employees scoring ≥ 4 points are scheduled for outpatient consultations or receive on-site assessments by occupational health physicians to identify hazards and provide individualized education and assistance.▶ Additionally, preventive programs for musculoskeletal pain are planned, including daily office stretching exercises, consultations with physical therapists, hiring visually impaired massage therapists to provide massage services, so as to alleviate symptoms of pain.	<ul style="list-style-type: none">▶ In 2024, during the health check-ups, 86 individuals were identified with more severe pain (scoring ≥ 4 points) in the NMQ survey, who had completed outpatient consultations and received health education or medical treatment evaluations by a physician, with a completion rate of 73% (63/86).▶ Additionally, visually impaired massage therapists provided massage services for approximately 3,990 people in 2024 to alleviate pain.
Abnormal workload-induced disease prevention plan	<ul style="list-style-type: none">▶ Nuvoton Taiwan implements management measures for employees working in shifts, night shifts, or long hours to prevent excessive workload and mental stress, which can lead to the accumulation of long-term stress and work-related fatigue, triggering cardiovascular and other related diseases.▶ Similarly, Nuvoton Japan has a similar program. Each year, we conduct stress checks based on recommendations from the Ministry of Health, Labour, and Welfare. The purpose of this check is to maintain psychological well-being. Individual examination results are provided to employees to help them recognize their own conditions and take action. Additionally, we provide organizational analysis reports to the Company to facilitate workplace improvement actions aimed at reducing stressors. For those experiencing high levels of stress and willing to seek help, we offer face-to-face meetings with occupational physicians. If necessary, we refer them to counseling organizations or specialists, or take measures in their work environment to address their needs.	<ul style="list-style-type: none">① In 2024, Nuvoton Taiwan managed 254 individuals. Among them, 16 employees identified as having medium to high risk have already undergone a doctor's interview and assessment, and are now receiving regular follow-ups.② In 2024, following the analysis of employee fatigue and psychological questionnaires, 55 individuals identified as being at medium to high risk were interviewed by professional psychological counselors from our partnered EAP. This initiative aimed to alleviate stress and mitigate risks.▶ In 2024, Nuvoton Japan conducted a 14-day stress check, which involved 1,642 employees (accounting for 99.5% of all employees) conducting self-assessments using this tool. Subsequently, we arranged face-to-face meetings with occupational physicians for employees who expressed interest in further assistance.

Plan Name	Brief	2024 Achievements
Prevention plan for unlawful infringement in the performance of duties	<div><div>①</div><div>Following the guidelines set forth by the Ministry of Labor on preventing illegal acts in the workplace, Nuvoton has established prevention strategies and management procedures. In case of a suspected incident, a suspected workplace unlawful infringement incident report form must be filled out within 24 hours and an investigation conducted. Immediate, continuous, and supportive protective measures shall be provided for the complainant, with the Health Center assisting in counseling and protecting the privacy of the involved party.</div></div> <div><div>②</div><div>Annually, we conduct advocacy and educational training sessions. During onboarding sessions for new employees, we ensure they understand how to protect themselves and know the channels for filing complaints. The Company firmly declares a “zero tolerance” policy towards workplace unlawful infringement and strives to cultivate a workplace culture characterized by safety, dignity, non-discrimination, mutual respect, inclusivity, and equal opportunities.</div></div>	<div><div>➤</div><div>In 2024, Nuvoton Taiwan completed hazard identification and risk assessment. During onboarding training for new employees, we explained the Company’s internal reporting and handling procedures, encouraging employees to foster a culture of mutual respect and inclusivity in the workplace to prevent any unlawful infringement. The training completion rate was 100% in 2024, with no workplace illegal infringement complaint reported.</div></div>
Maternity health protection plan	<div><div>➤</div><div>In accordance with the Technical Guidelines for Maternity Health Protection in the Workplace, Nuvoton Taiwan implements a protection plan for female employees who are pregnant or within one year postpartum.</div></div> <div><div>➤</div><div>Annually, in collaboration with occupational safety, we complete a workplace environment and job hazard identification and risk assessment forms. This includes arranging physician consultations, health education, job suitability recommendations, and risk classification management. If necessary, discussions can be carried out with supervisors to provide flexible work arrangements to ensure a safe working environment.</div></div> <div><div>➤</div><div>We also actively encourage our employees to have children by providing comprehensive childbirth assistance programs and lactation rooms, allowing them to flexibly schedule time for milk collection. Additionally, we offer designated parking for expectant mothers, and practical gifts for expecting colleagues related to childcare.</div></div>	<div><div>➤</div><div>In 2024, 15 women were pregnant at Nuvoton Taiwan, and 27 women returned to work one year after giving birth and after staying for a period of time. All of them completed the physician interview, including 4 transferred from night shift or specific work area after evaluation to maintain health.</div></div>



5.4

Employee Care and Communication

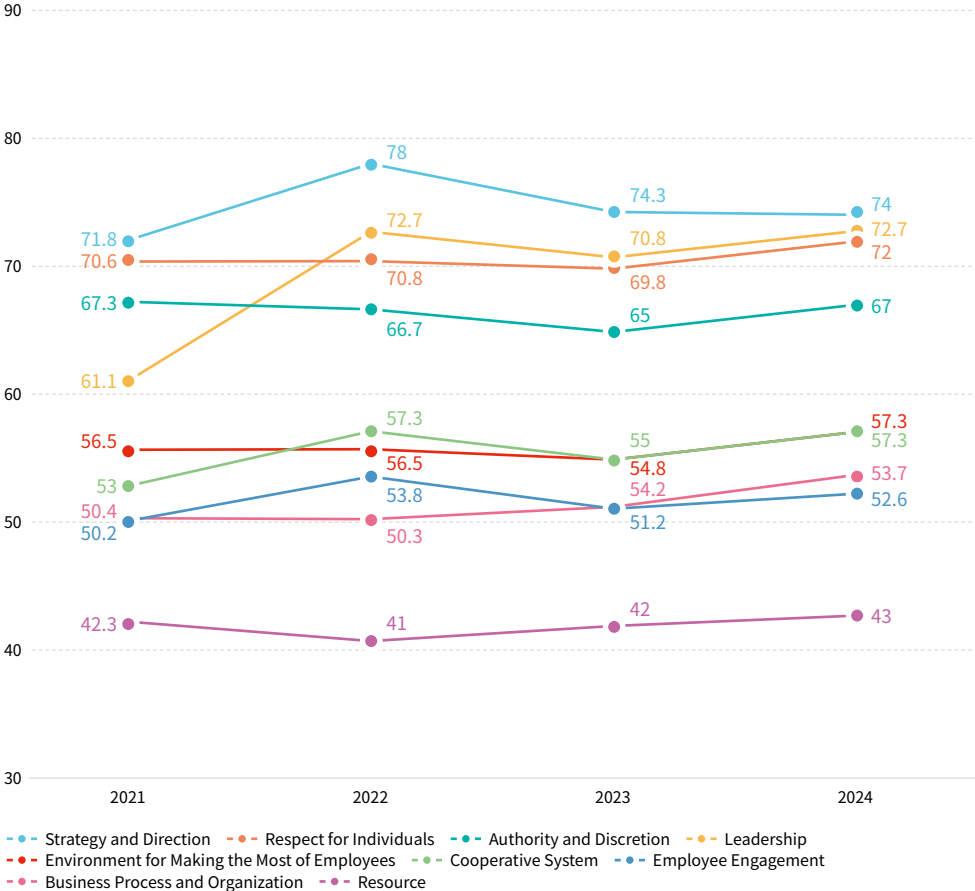
Labor-Management Communication

Some of Nuvoton’s overseas subsidiaries have established labor unions and signed collective agreements with them. The number of members participating in the labor unions accounts for 59% of all employees in overseas subsidiaries. For the rest who are not members of a union, their working conditions and employment conditions are in accordance with the Company’s personnel system standards. Although Nuvoton Taiwan has not established a labor union or collective agreement, it regularly holds labor-management meetings and provides multiple transparent communication channels, allowing employees to voice their opinions and ensuring effective interaction between the Company and its employees.

To understand employee satisfaction with public affairs, Nuvoton Taiwan has conducted an annual public affairs employee satisfaction survey at Yanshin plant since 2021, and a dining satisfaction survey at the Chubei office. In 2024, 4,264 dining satisfaction samples were collected, with an overall satisfaction rate of 83%. Based on the results, we have implemented improvements to provide a better experience for our employees. Additionally, Nuvoton Taiwan plans to conduct an “Employee Engagement Survey” in 2025 to understand employees’ perceptions of core values, their implementation, and engagement levels. This will help adjust company strategies and strengthen the mutual commitment between the Company and its employees. In 2024, Nuvoton Japan conducted an employee satisfaction survey with a response rate of 91.2%. The survey covered 9 dimensions, and compared to 2023, improvements were observed across all dimensions.



Nuvoton Japan 2024 Employee Satisfaction Survey Results



Communication Channels and Effectiveness in 2024

Communication Category	Explanation	Communication Effectiveness
Labor-management meetings	<ul style="list-style-type: none">Nuvoton holds regular labor-management meetings to facilitate communication between both parties.	<ul style="list-style-type: none">In 2024, a total of 4 labor-management meetings were convened at Nuvoton Taiwan. During these meetings, updates on quarterly company revenue status and relevant labor-related information were provided to the labor representatives. Discussions were also held on topics such as the annual employee calendar (including holiday schedules) and adjustments to the rotating shift schedules, such as the 2-week shift rotation. Nuvoton ensures that in cases of significant operational changes requiring the termination of employment relationships with certain employees, advance notice will be provided in accordance with legal regulations at each operational site.Nuvoton Japan held 2 labor-management meetings in 2024.
Employee feedback forms	<ul style="list-style-type: none">Nuvoton values staff feedback and provides physical boxes at each factory site that support anonymous submissions, along with diverse online feedback channels. These channels include general feedback, ESG (Environmental, Social, and Governance) integrity operation reporting, and a dedicated mailbox for reporting harassment cases. These channels are managed directly by Human Resources Department supervisors and representatives from the Sustainability Development Committee.To promote friendly communication in the workplace, orientation sessions are organized for new hires, where HR supervisors address their queries firsthand. This demonstrates the Company's commitment to valuing employee feedback. Additionally, continuous efforts are made during all-staff training sessions to promote these feedback channels, encouraging employees to voice their suggestions and concerns.	<ul style="list-style-type: none">In 2024, a total of 9 pieces of feedback were received from employees, with a response rate of 100%.In 2024, there was 0 complaint of workplace unlawful infringement or sexual harassment.To foster camaraderie among Nuvoton new employees and facilitate better working relationships, exchange sessions are organized for each intake of new employees. Moreover, senior executives participate in discussions, allowing new employees to provide direct feedback and gain a deeper understanding of company policies, thus facilitating their integration into the company culture. In 2024, Nuvoton Taiwan held 3 orientation sessions, with a total of 108 participants; Nuvoton Japan held 11 orientation sessions.
Managerial communication meetings	<ul style="list-style-type: none">Nuvoton holds quarterly managerial communication meetings, following the Nuvoton "Internal Major Information Handling Procedures" to ensure consistency and accuracy in the Company's external information dissemination.	<ul style="list-style-type: none">In 2024, a total of 4 managerial communication meetings were held at Nuvoton Taiwan, where the Chairman and President shared updates on company operations, technological advancements, and future prospects with global managers. During these meetings, managers had the opportunity to ask questions, share team management experiences, and learn from the insights provided by senior management firsthand, fostering mutual learning and growth.Executives and members of each business group or center of Nuvoton Japan held 18 roundtable discussions in 2024.

Communication Category	Explanation	Communication Effectiveness
Town Hall Meeting	<ul style="list-style-type: none">To ensure that employees in both the Nuvoton Taipei and Tainan offices are synchronized with headquarters and to listen to the voices of local colleagues, Town Hall Meetings are held in both locations every six months. These meetings are presided over by the President, who shares recent operational information and opens the floor for questions from employees, fostering effective communication through interaction.	<ul style="list-style-type: none">In 2024, a total of 4 Town Hall Meetings were held, during which 52 questions were collected from employees before and during the meetings. Some of these questions were forwarded to relevant departments for further processing. After the meetings, the satisfaction rating from employees reached 4.8 out of 5, indicating high levels of satisfaction with the communication efforts.
Employee satisfaction survey	<ul style="list-style-type: none">Nuvoton Japan conducts employee satisfaction survey to assess workplace environment and employee awareness across 9 dimensions, including strategy and direction, respect for individuals, authority and discretion, leadership, environment for making the most of employees, cooperative system, employee engagement, business process and organization, and resource. The purpose is to identify areas for improvement.	<ul style="list-style-type: none">In 2024, out of a total of 1,655 participants, 1,511 responded, achieving a response rate of 91.2%. All metrics showed improvement compared to 2023.

Nuvoton is committed to creating a working environment that promotes the physical, mental, and spiritual well-being of its employees. In addition to caring for employees’ physical health, diverse activities are planned to translate the Company’s heartfelt concern for its employees into action, fostering a friendly and happy workplace environment and promoting a culture of living well.



Employee Care

New employee care

Workplace unlawful infringement prevention lecture series

Recognition for long-serving employees

Description	Achievements in 2024
<div>Nuvoton Taiwan</div> <ul style="list-style-type: none">➤ In 2024, for newly hired employees, one-on-one care visits were arranged to assess their adjustment to the Company. This initiative, combined with the new employee buddy system, aimed to support employees in adapting to their new environment by promoting employee assistance programs (EAP) and various company benefits.	<div>Nuvoton Taiwan</div> <ul style="list-style-type: none">➤ In 2024, an internal one-stop employee service platform—Nuvoton Universe and HR service platform—was established to facilitate new employees in quickly accessing relevant services. The average satisfaction rate for annual new employee care and onboarding assistance reached 88.3%.
<div>Nuvoton Japan</div> <ul style="list-style-type: none">➤ New full-time employees are assigned mentors who are experienced staff members. Those with previous work experience are partnered with colleagues and experienced employees. All new hires receive thorough one-on-one follow-up. Through these measures, they are assisted in the process of integrating into the workplace.	<div>Nuvoton Japan</div> <ul style="list-style-type: none">➤ In 2024, approximately 100 new employees benefited in Nuvoton Japan.
<ul style="list-style-type: none">➤ Invite external professional lecturers to give lectures and share, help supervisors to more comprehensively understand various forms of unlawful infringement and legal responsibilities, implement reasonable and legal effective management, and establish a diverse, inclusive, friendly, and healthy workplace environment	<ul style="list-style-type: none">➤ In 2024, Nuvoton Taiwan organized 4 workplace unlawful infringement prevention courses, with 119 supervisors participating and an average satisfaction score of 4.8 out of 5. 1,565 people were trained in the full staff training course, with a pass rate of 100%.➤ In Nuvoton Japan, 1,776 employees underwent training with a 100% pass rate.
<ul style="list-style-type: none">➤ Every year, Nuvoton awards service anniversary gifts to senior employees as a token of appreciation for their dedication.	<ul style="list-style-type: none">➤ In 2024, during the Company's 16th-anniversary family day event, a recognition ceremony was held to publicly acknowledge and thank both local and foreign employees for their contributions. Senior employees were also invited to participate in interviews and filming, sharing their experiences and insights at Nuvoton, which showcased the Company's diverse and inclusive workplace culture.

Employee Care

Post-retirement
benefits plan

Employee
transition
programs

Description and Achievements in 2024

Nuvoton Taiwan

1. Plan to determine allocation

- Nuvoton Taiwan operates under the “Labor Pension Act,” which is a defined contribution retirement plan managed by the government. Employees contribute 6% of their monthly salary towards their individual accounts at the Bureau of Labor Insurance.

2. Plan to determine benefits

- Additionally, Nuvoton Taiwan provides a defined benefit retirement plan in accordance with the Labor Standards Act. Retirement benefits are calculated based on years of service and the average salary for the 6 months preceding the approved retirement date. In 2024, Nuvoton allocated 2% of each employee’s total monthly salary to the employee retirement fund. These contributions are supervised by the Labor Funds Supervisory Committee and deposited into an account at the Bank of Taiwan under the Committee’s name. If the estimated balance in the account is insufficient to cover the retirement benefits for eligible employees within the next year, the shortfall will be fully allocated by the end of March of the following year.
- In addition to the above retirement plans, the Company offers an early retirement plan for interested employees. Eligible employees can apply for early retirement according to the Company’s regulations, subject to approval by their responsible supervisors.

Nuvoton Japan

- A fixed payment retirement plan (DC system) is in operation.

Nuvoton Taiwan

- In response to societal trends such as an aging population and declining birth rates, and in alignment with the Ministry of Labor’s advocacy, Nuvoton Taiwan has created an age-friendly employment environment. Following the guidelines of the Middle-aged and Elderly Employment Promotion Act, Nuvoton Taiwan offers a retirement transition program. We engage in discussions with exceptional employees nearing retirement age to gauge their interest in continuing their service. If both parties agree, the employee is rehired, facilitating a gradual transition into retirement while enabling the transfer of valuable experience—a retirement with continuation. One employee was rehired in 2024.

Chapter 6

Social Inclusion



6.1 Public Welfare and Social Inclusion

2024 Performance Highlights



A total of NT\$**1,382,535** was invested in diverse public welfare initiatives.



The total number of participants in volunteer work and donation responses was **1,108 people**.

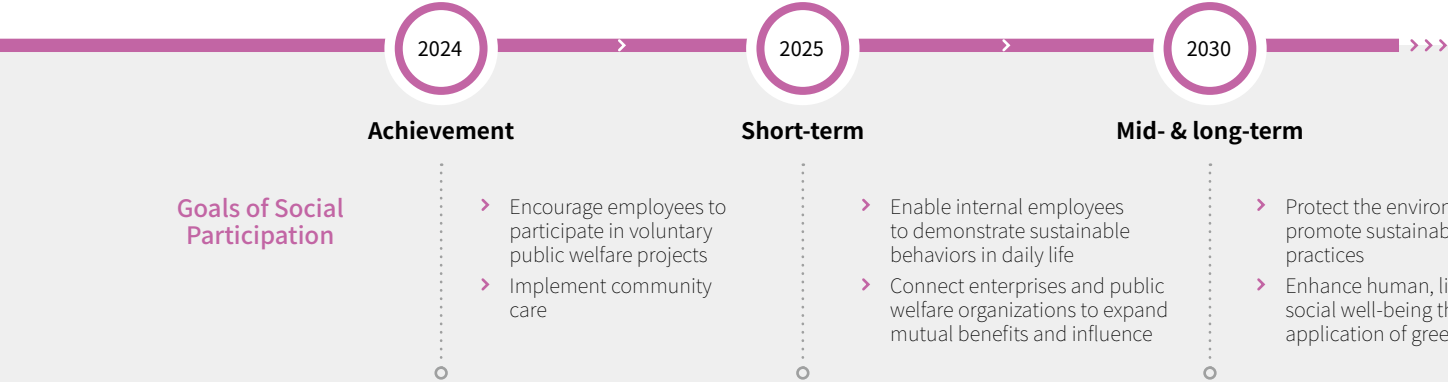


A total of **4,625 hours** were dedicated to diverse public welfare services.



6.1 Public Welfare and Social Inclusion

Nuvoton integrates internal and external resources to promote the four development pillars of 4E (Empowered, Engaged, Education and Environment), driven by the core forces of “social welfare, community well-being, cultural education, and environmental symbiosis.” This fulfills our corporate vision of being a “Hidden Champion (G) In Providing Sustainable Semiconductors (E) To Enrich Human Life (S).” We establish short-, mid-, and long-term goals for social inclusion, beginning with encouraging employees and connecting enterprises and charity organizations to expand mutual benefits and influence. In the long term, we aim to promote sustainable living practices and enhance human life and well-being through the application of green technology. In the future, we will keep investing in a variety of public welfare initiatives, utilizing our core strengths to achieve a positive impact on society. In 2024, we invested a total of NT\$1,382,535 as well as received 1,108 volunteers and donation responses that resulted in a total service time of 4,625 hours.





2024 Nuvoton Social Inclusion Project

Donation to Ren'ai children's home

Nuvoton Taiwan is one of the long-term donors of the Hsinchu Ren'ai Children's Home, having helped raise NT\$ 340,400 for the institution.

Donation to Angel Heart Family Social Welfare Foundation

The Angel Heart Family Social Welfare Foundation takes care of children with developmental delays and various physical and mental disabilities, as well as their families. A donation of NT\$ 200,000 has assisted in establishing the Foundation to set up the Hsinchu Service Center.

Nuvoton scholarship

To cultivate top talents in the IC design field and reward outstanding students, Nuvoton Taiwan established the Nuvoton Technology Corporation Scholarship in 2022. Graduate students can receive a monthly scholarship of NT\$30,000 (a total of NT\$180,000 per semester), allowing them to fully dedicate themselves to learning during their studies and strengthen their various professional skills and abilities to make a critical impact in the semiconductor industry in the future.

Blood donation activities

Nuvoton Taiwan has been cooperating with the Hsinchu Blood Donation Center for many years to encourage employees to actively participate in social welfare activities. In 2024, we held 5 blood donation activities, collecting a total of 188 bags of blood.

Nuvoton Japan partnered with the Kyoto Red Cross Blood Donation Center in 2024, encouraging employees to donate blood, and a total of 69 bags of blood were donated.



Donation to local elementary school

Nuvoton Japan, in an effort to foster a "reading habit" among local elementary school children, donated a year's subscription to newspapers featuring news from various regions across Japan. This initiative aims to help children expand their vocabulary through reading newspapers.



Fire and rescue volunteers and donation

In 2024, Nuvoton Taiwan donated NT\$ 20,000 worth of emergency medical supplies to the 119 Fire Brigade. One employee of our Company, who is passionate, volunteers as an ambulance worker in his spare time and teaches CPR techniques to students. In 2024, he assisted in 119 ambulance missions for 177 hours.



Neighborhood community environmental protection

We visited the head of nearby Xiangong Village to understand residents' needs and feedback, while helping to maintain the cleanliness of the community and park to prevent the breeding of vector mosquitoes.





Promotion of local agricultural products

We organized a food and agriculture education event featuring a lychee tasting session. Small-scale farmers planting Xiangshan Black Leaf Lychee were invited to share their cultivation processes and eco-friendly farming methods. We encouraged participants to eat and engage locally, helping employees learn to distinguish between the appearance and taste of local and imported lychees. This initiative aims to showcase the benefits of Hsinchu’s local agricultural products to a wider audience.

The Nuvoton Taiwan employee canteen ordered bok choy from the Guanxi Muxing Farm, supporting local young farmers and encouraging them to return to their hometowns for employment.

It is expected to collaborate with the Zhubei Donghaili Fenghezi Association in 2025 to promote the protection of local agricultural culture and landscape planning — the Fenghe Field Ecological Balance and Low-Carbon Diet Education Program.

Community engagement in Nagaokakyo City, Japan

Nuvoton Japan’s head office is located in Nagaokakyo in Kyoto, a city filled with historical sites and rich cultural heritage. With respect for the history and traditions of the local community, the Company donated approximately NT\$20,747 in 2024 to assist Nagaokakyo City in organizing the Garasha Festival. There, 12 employees also served as festival volunteers. Furthermore, the Company has participated in and donated to other public welfare activities in Nagaokakyo City, including the Sports Festival for People with Disabilities, the opening ceremony of the Autumn Traffic Safety Campaign and traffic safety courses, and food bank activities.



The 1st ESG Forum of the Hsinchu Science Park in 2024

In collaboration with the Regional Innovation Center at National Tsing Hua University, Vice President Kuang-Lun Lin of the Nuvoton Sustainability Development Committee presided over a session on community building and local revitalization. He guided social enterprises and community groups in presenting ESG proposals, called on partners within the industrial park to understand the developmental characteristics of the community, emphasized communication with diverse stakeholders, considered the living rights of local residents, and allocated appropriate resources to preserve local features and promote sustainable urban and rural development.



Nuvoton youth football tournament

In response to Nagaokakyo City’s Citizen Cup event, Nuvoton Japan organized the Youth Football Tournament in 2024, providing local students with an opportunity to showcase their talents. Adhering to our commitment to promoting sports events and improving the quality of life of community residents, the Company donated approximately NT\$41,580.

Nuvoton Festival

In 2024, Nuvoton Japan hosted the Nuvoton Festival, inviting not only employees but also their families and members from the surrounding community as a way to express the Company’s gratitude to its employees and society.

Served as a professional mentor for the Bachelor’s program in the College of Humanities and Social Sciences at National Tsing Hua University

Acted as a lecturer for the Social Innovation and Humanistic Practice course in the Bachelor’s Program of the College of Humanities and Social Sciences at National Tsing Hua University, sharing Nuvoton’s recent carbon reduction pathways and achievements, and introducing the practices of special exhaust gas treatment systems in the semiconductor industry.



Sustainable resources and public welfare education | “Reading More Love” second-hand book collection

Encouraged colleagues to donate and exchange books, giving new value to second-hand books while practicing public welfare and promoting the concept of sustainable resources and environmental protection. The collected books of Nuvoton Taiwan were purchased by Shu Bao Second-hand Bookstore and converted into “Love Book Points,” which were fully donated to schools that were long-term partners with the bookstore. Teachers at these schools select age-appropriate books for children, ensuring the continuous transmission of love and knowledge. In 2024, a total of 1,412 second-hand books were collected, representing a 33% increase compared to 2023. These were converted into 4,386 book purchase points. Since 2022, the cumulative number of participants has exceeded 142. Nuvoton Japan donated a total of 132 second-hand books in 2024, which were then converted into a cash donation to the Kyoto Crime Victims Support Center.



Program logic education at Zhutian Elementary School

Collaborating with professors from National Kaohsiung University of Science and Technology, Nuvoton Taiwan employees voluntarily conducted weekly program logic design courses to students from grades 1 to 6 at Zhutian Elementary School in Pingtung County. In 2024, they served 31 classes, reaching 729 students over 54 hours. Nuvoton places great importance on the education of children in remote areas. We not only encourage our employees to engage in volunteer services but also provide necessary teaching materials and funding for the courses.



Nuvoton Taiwan environmental education activities

In 2024, Nuvoton Taiwan initiated two environmental protection projects: a stream cleanup event at Touqian river in Zhubei in September, in response to World Rivers Day and a mountain and river cleanup activity in Hengshan Dashanbei area to protect the Rana Sauteri in November. A total of 5 employees participated in the stream cleanup event at Touqian river, removing approximately 7.25kg of waste from streams. In the mountain and river cleanup activity in Hengshan Dashanbei area to protect the Rana Sauteri, a total of 29 employees together removed approximately 10.43 kg of trash and classified and registered river waste according to the International Coastal Cleanup (ICC) action.



Nuvoton Japan’s environmental protection initiatives

Nuvoton Japan initiated two environmental protection plans, including the sparkling action and the Obata river cleanup action. Sparkling action focuses on cleaning the Company’s surrounding neighborhoods, with responsible colleagues conducting 30-minute clean-up sessions every Thursday. In 2024, a total of 31 sessions were held in the Kyoto region, with 156 employees participating, while 5 sessions were conducted in the Hokuriku region. Located in



Kyoto City, Nuvoton Japan’s headquarters participated in a volunteer cleanup activity organized by the local community committee along the Obata river. In line with the belief of giving back to society, a total of 12 employees joined the initiative to help maintain the cleanliness of the river that flows through the city.

Sasakia Charonda biodiversity project of the Forestry and Nature Conservation Agency

Nuvoton Taiwan places significant emphasis on promoting sustainable biodiversity literacy. In alignment with Target 15 of the Kunming-Montreal Global Biodiversity Framework, which underscores corporate responsibility, the Company engaged in the biodiversity project initiated by the Hsinchu Branch of the Forestry and Nature Conservation Agency, Ministry of Agriculture. This project was carried out in collaboration with the Taiwan Butterfly Conservation Society and the Department of Electrical Engineering at National Yunlin University of Science and Technology, with support from Taiwan Biodiversity Research Institute of the Ministry of Agriculture. Starting from October 2024, we have invested in supporting preliminary actions such as natural habitat surveys and monitoring the forest form of hackberry. It is expected to produce images and distribution maps of hackberry during specific growth periods in the R’uzyan Tribe. By focusing on habitat restoration, the larvae of Sasakia Charonda will have a stable food source, providing an opportunity for Sasakia Charonda ecological restoration in Wufeng Township, Hsinchu. This initiative will also align with the local community forestry program of the R’uzyan Tribe and establish partnerships with local patrol teams.



Appendix

Appendix 1: Environmental Data

Appendix 2: Social Data

Appendix 3: Index of GRI (Global Reporting Initiative)

Appendix 4: Sustainability Accounting Standards (SASB) Index

Appendix 5: Sustainability Disclosure Indicators - Semiconductor Industry

Appendix 6: TWSE/TPEx-Listed Companies Climate-related Information

Appendix 7: KPIs of Taiwan Sustainable Taxonomy

Appendix 8: Third-Party Verification Statement

Appendix 1: Environmental Data¹

Greenhouse gases²

Scope 1

Company	Type	2021	2022	2023	2024
Nuvoton Taiwan	Carbon dioxide	497	489	550	594
Nuvoton Japan		23,593	21,474	18,593	14,205
Overseas subsidiaries		-	-	168	13
Nuvoton Taiwan	Methane	90	57	56	62
Nuvoton Japan		132	130	41	75.5
Overseas subsidiaries		-	-	43	38
Nuvoton Taiwan	Nitrogen dioxide	1,158	1,113	855	1,061
Nuvoton Japan		198	188	125	125
Overseas subsidiaries		-	-	5	-
Nuvoton Taiwan	Hydrofluorocarbons (HFCs)	13,031	12,835	8,624	4,537
Nuvoton Japan		840	616	3	64
Overseas subsidiaries		-	-	-	-

Unit: t-CO₂e

Company	Type	2021	2022	2023	2024
Nuvoton Taiwan	Perfluorocarbons (PFCs)	12,487	11,290	7,754	6,690
Nuvoton Japan		5,987	6,212	1,389	783
Overseas subsidiaries		-	-	-	-
Nuvoton Taiwan	Sulfur Hexafluoride (SF ₆)	40,562	37,134	11,535	7,121
Nuvoton Japan		227	43	678	2,668
Overseas subsidiaries		-	-	-	-
Nuvoton Taiwan	Nitrogen trifluoride (NF ₃)	551	551	344	482
Nuvoton Japan		74	74	0	0
Overseas subsidiaries		-	-	-	-
Nuvoton Taiwan	Total	68,376	63,468	29,718	20,547
Nuvoton Japan		31,051	28,738	20,829	17,920
Overseas subsidiaries		-	-	216	51

1 Environmental data covers Nuvoton Taiwan, Nuvoton Japan (Arai, Uozu and Nagaokakyo plants, with greenhouse gases also including the Tonami plant) and overseas subsidiaries, except for nitrogen and sulfuric acid data which are only counted for Nuvoton Taiwan and Nuvoton Japan.

2 Greenhouse gas emissions are verified using the operational control method, and the calculation method is activity data * emission coefficient * GWP value. Nuvoton Taiwan's 2021-2024 data GWP values reference IPCCAR5 (2013) version, Nuvoton Japan's 2021-2023 data GWP values reference IPCCAR5 (2013) version, and 2024 data reference IPCCAR6 (2021) versions. Nuvoton Taiwan and Japan's 2024 Scope 1, 2, and 3 greenhouse gas data have all been certified by ISO 14064.

Scope 2¹

Unit: t-CO₂e

Company	2021	2022	2023	2024
Nuvoton Taiwan	37,740	35,786	35,495	33,771
Nuvoton Japan	83,403	72,076	61,810	49,465
Overseas subsidiaries	-	-	1,045	1,773
Total	121,143	107,862	98,350	85,009

Scope 3²

Unit: t-CO₂e

Company	2021	2022	2023	2024
Nuvoton Taiwan	19,595	18,393	98,972	144,926
Nuvoton Japan	-	-	625,940	433,678
Overseas subsidiaries	-	-	-	-
Total	19,595	18,393	724,912	578,604

- 1 The 2024 Nuvoton Taiwan Scope 2 electricity carbon emission factor is calculated with reference to the 2024 electricity carbon emission factor (0.474 kg CO₂e/kWh) announced by the Energy Administration, Ministry of Economic Affairs. If local regulations do not specify requirements, overseas subsidiaries should use the factor provided in Taiwan for their calculations. The data for Nuvoton Japan is calculated as carbon dioxide equivalents using the conversion coefficients specified by Japan's Energy Conservation Act.
- 2 Nuvoton Taiwan's data for 2024 includes purchased products/services, capital goods, fuel and energy-related activities, upstream transportation and distribution, downstream transportation and distribution, employee business travel, employee commuting, investments, waste generated in operations, and downstream leased assets. Nuvoton Japan's data for 2024 includes purchased products/services, owned capital or products, fuel and energy-related activities, upstream transportation and distribution, waste generated in operations, employee business travel, employee commuting, downstream transportation and distribution, and downstream leased assets.

Company	Scope	Unit	2021	2022	2023	2024
Nuvoton Taiwan	Scope 1	t-CO ₂ e	68,376	63,468	29,718	20,547
Nuvoton Japan			31,051	28,738	20,829	17,920
Overseas subsidiaries			-	-	216	51
Nuvoton Taiwan	Scope 2	t-CO ₂ e	37,740	35,799	35,495	33,771
Nuvoton Japan			83,403	72,076	61,810	49,465
Overseas subsidiaries			-	-	1,045	1,773
Nuvoton Taiwan	Scope 3	t-CO ₂ e	92,268	90,433	98,972	144,926
Nuvoton Japan			-	-	625,940	433,678
Overseas subsidiaries			-	-	-	-
Nuvoton Taiwan	Total (Scope 1 + Scope 2 + Scope 3)	t-CO ₂ e	167,803.33	162,557.69	153,216	199,244
Nuvoton Japan			114,454	100,814	708,579	501,063
Overseas subsidiaries			-	-	1,261	1,824
Nuvoton Taiwan	GHG emissions intensity	t-CO ₂ e/ million NT\$	7.27	5.08	3.42	2.85
Nuvoton Japan		t-CO ₂ e/ million NT\$	5.26	4.38	3.81	4.19
Nuvoton Taiwan	GHG emissions intensity ¹	kg-CO ₂ e/ cm ² of wafer	0.95	0.98	0.78	0.59
		kg-CO ₂ e/ layer-wafer mask	10.1	9.8	8.1	5.8

- 1 Nuvoton Japan does not have relevant data, as the numerous wafer products make precise calculations currently unfeasible. Future efforts will focus on researching and confirming calculation methods.

Company	Scope	2021 (Baseline Year) Total	2022 Reduction	2023 Reduction	2024 Reduction
Nuvoton Taiwan	Scope 1	68,376	4,908	38,658	47,829
Nuvoton Japan		31,051	2,313	10,222	13,131
Nuvoton Taiwan	Scope 2	37,740	1,941	2,245	3,969
Nuvoton Japan		83,403	11,327	21,593	33,938
Nuvoton Taiwan	Scope 3	92,268	1,835	N/A ¹	N/A ²
Nuvoton Japan		-	-	-	-
Nuvoton Taiwan	Scope 1 and Scope 2 total reduction ³	-	6,849	40,903	51,798
Nuvoton Japan		-	13,640	31,815	47,069

¹ In 2023, the scope of Scope 3 verification has been expanded to include capital goods and outsourced services, so it cannot be compared with the baseline year.

² In 2024, the scope of Scope 3 verification has been expanded to include capital goods and outsourced services, so it cannot be compared with the baseline year.

³ Due to the expanded scope of the Scope 3 verification for Nuvoton Taiwan in 2023-2024 compared to the baseline year, and the absence of Scope 3 data for Nuvoton Japan in 2021, it is not possible to compare the Scope 3 data with the baseline year. Total reduction is the sum of Scope 1 and Scope 2.

Water Resource Usage^{1&2}

Unit: Million liters/year

Item			2021		2022		2023		2024	
			Nuvoton Taiwan	Nuvoton Japan	Nuvoton Taiwan	Nuvoton Japan	Nuvoton Taiwan	Nuvoton Japan	Nuvoton Taiwan	Nuvoton Japan
Water withdrawal ³	Categorized by source	Surface water	2	0	2	0	2	0	2	0
		Groundwater	0	5,248	0	4,794	0	3,941	0	3,447
		Tap water (third-party water)	395	59	412	63	400	62	422	63
	Total water withdrawal		397	5,307	414	4,856	402	4,003	424	3,510
Drainage	Categorized by endpoint type	Surface water	0	4,948	0	4,500	0	3,657	0	3,185
		Groundwater	0	0	0	0	0	0	0	0
		Wastewater treatment plants ⁴ (third-party reprocessing)	319	91	312	94	317	89	318	88
	Categorized by treatment level	Tertiary treatment	0	0	0	0	0	0	0	0
		Secondary treatment ⁵	302	5,004	297	4,565	302	3,717	302	3,243
		Untreated	17	35	15	29	15	29	16	30
	Total discharge volume		319	5,039	312	4,595	317	3,746	318	3,273
Water consumption	Total water consumption		79	269	102	262	85	256	106	237
	Change in water storage		0	0	0	0	0	0	0	0

1 The scope of water resource statistics covers Nuvoton Taiwan and Nuvoton Japan, both of which do not extract water from areas with water pressure.

2 The data information here has been recompiled and the adjustment instructions compared with the previous year's report are detailed in [Appendix 3](#).

3 Nuvoton Taiwan's water sources for tap water are third-party water and surface water, with no water coming from groundwater or seawater. The third-party water source comes from surface water (freshwater $\leq 1,000$ mg/L total dissolved solids). The total water withdrawal is calculated as the sum of surface water (total), groundwater (total), seawater (total), and third-party water (total).

4 Third-party water refers to the Hsinchu Science Park Wastewater Treatment Plant.

5 Definition of secondary treatment: Remove residual, dissolved, or suspended components and substances in the water.

Waste¹

Nuvoton Taiwan

Waste Composition	2021			2022			2023			2024		
	Generation of Waste	Transfer and Disposal of Waste	Direct Disposal of Waste	Generation of Waste	Transfer and Disposal of Waste	Direct Disposal of Waste	Generation of Waste	Transfer and Disposal of Waste	Direct Disposal of Waste	Generation of Waste	Transfer and Disposal of Waste	Direct Disposal of Waste
Waste sulfuric acid	436.31	436.31	0	407.18	407.18	0	304.13	304.13	0	375	375	0
Waste hydrofluoric acid	68.15	68.15	0	65.18	65.18	0	56.83	56.83	0	69	69	0
Waste isopropanol	27.39	27.39	0	21.05	21.05	0	18.09	18.09	0	24	24	0
Waste organic solvents	56.48	56.48	0	33.79	33.79	0	37.67	37.67	0	44	44	0
Waste chemical drums	10.16	10.16	0	9.43	9.43	0	7.51	7.51	0	8.7	8.7	0
Recycled photomasks	0.88	0.88	0	0.63	0.63	0	0.56	0.56	0	0.4	0.4	0
Recycled mercury lamps	0.43	0.43	0	0.00	0.00	0	0.17	0.17	0	0	0	0
Recycled mixed hardware	13.49	13.49	0	18.77	18.77	0	22.51	22.51	0	2.8	2.8	0
Recycled waste	22.57	22.57	0	27.15	27.15	0	24.60	24.60	0	57	57	0
General waste	11.41	11.41	0	12.73	12.73	0	5.69	5.69	0	18	18	0
Total waste	647.27	647.27	0	595.92	595.92	0	477.76	477.76	0	599	599	0

¹ The data information here has been recompiled and the adjustment instructions compared with the previous year's report are detailed in [Appendix 3](#).

Nuvoton Japan

Waste Composition	2021			2022			2023			2024		
	Generation of Waste	Transfer and Disposal of Waste	Direct Disposal of Waste	Generation of Waste	Transfer and Disposal of Waste	Direct Disposal of Waste	Generation of Waste	Transfer and Disposal of Waste	Direct Disposal of Waste	Generation of Waste	Transfer and Disposal of Waste	Direct Disposal of Waste
General waste	90	90	0	70	70	0	82	82	0	25	25	0
Industrial waste	2,828	2,828	0	2,644	2,644	0	2,161	2,161	0	1,478	1,478	0
Specially controlled industrial waste	237	237	0	279	279	0	225	225	0	79	79	0
Total waste	3,155	3,155	0	2,993	2,993	0	2,468	2,468	0	1,582	1,582	0

Waste Items		2021		2022		2023		2024	
		Nuvoton Taiwan	Nuvoton Japan	Nuvoton Taiwan	Nuvoton Japan	Nuvoton Taiwan	Nuvoton Japan	Nuvoton Taiwan	Nuvoton Japan
General waste	Recycling volume	105	120	93	222	93	172	177	149
	Landfill volume	38	0	18	0	67	0	32	0
	Incineration volume (with energy recycling)	163	192	173	246	160	179	162	145
	Incineration volume (without energy recycling)	0	1,381	0	1,164	0	851	0	1,001
	Chemical treatment volume	0	646	0	559	0	528	0	722
	Output	306	2,388	284	2,192	320	1,729	371	2,017
	Recycling rate	34.3%	100%	32.7%	100%	29.1%	100%	47.7%	100%
Hazardous waste	Recycling volume	542	0	503	0	387	0	479	0
	Landfill	0	0	0	0	0	0	0	0
	Incineration (with energy recycling)	21	20	25	26	19	14	19	6
	Incineration (without energy recycling)	0	1	0	0	0	0	0	0
	Solidification treatment volume	2	0	1	0	1	0	1	0
	Chemical treatment volume	0	5	0	3	0	6	0	0
	Output	565	26	529	29	407	20	499	6
	Recycling rate	95.9%	100%	95.1%	100%	95.1%	100%	96.0%	100%
Total recycling rate ¹		74.3%	100%	73.3%	100%	66.0%	99.9%	75.4%	100%

1 Total waste recycling rate (%) = total amount of general industrial waste and hazardous industrial waste recycled/(total amount of general industrial waste and hazardous industrial waste recycled + total amount of general industrial waste and hazardous industrial waste not recycled)*100%.

Nitrogen and Sulfuric Acid¹

Company	Chemical Raw Materials	Unit	2021 (Baseline Year)	2022	2023	2024
Nuvoton Taiwan	Nitrogen usage	10,000 m ³	603	601	602	610
	Reduction compared to the baseline year	%	-	0.3%	0.2%	-1%
	Nitrogen usage per unit product	m ³ /layer-wafer mask	0.57	0.59	0.75	0.66
	Reduction compared to the baseline year	%	-	-4%	-32%	-16%
	Sulfuric acid usage	Tons	685	652	480	558
	Reduction compared to the baseline year	%	-	5%	30%	19%
	Sulfuric acid usage per unit product	Grams/layer-wafer mask	65	64	60	60
	Reduction compared to the baseline year	%	-	2%	8%	8%
Nuvoton Japan	Nitrogen usage	10,000 m ³	2,850	2,302	1,161	858
	Reduction compared to the baseline year	%	-	-19%	59%	70%
	Sulfuric acid usage	Tons	277	225	76	82
	Reduction compared to the baseline year	%	-	19%	72%	70%

¹ The data information here has been recompiled and the adjustment instructions compared with the previous year’s report are detailed in [Appendix 3](#).

Appendix 2: Social Data

Anti-Corruption Policy Communication and Training Status

Organizational Governance unit ¹			
Region	Total number of members who have been communicated with regarding the organization's anti-corruption policies and procedures	Total number of members in the organization's governance unit	Percentage
Nuvoton Taiwan	11	11	100%
Nuvoton Japan	13	13	100%

Organizational Governance Unit ¹			
Region	Total number of members who have received anti-corruption education and training	Total number of members in the organization's governance unit	Percentage
Nuvoton Taiwan	11	11	100%
Nuvoton Japan	13	13	100%

Business Partner ²			
Region	Total number of members who have been communicated with regarding the organization's anti-corruption policies and procedures	Total number of personnel employed by the organization	Percentage
Nuvoton Taiwan	791	791	100%
Nuvoton Japan	136	136	100%

Employees ^{3&4}				
Region	Employee category	Total number of members who have been communicated with regarding the organization's anti-corruption policies and procedures	Total number of personnel employed by the organization	Percentage
Nuvoton Taiwan	Supervisors	191	191	100%
	Non-supervisors	1,366	1,366	100%
Nuvoton Japan	Supervisors	352	352	100%
	Non-supervisors	1,425	1,425	100%

Employees ⁴				
Region	Employee category	Total number of employees who have received anti-corruption education and training	Total number of personnel employed by the organization	Percentage
Nuvoton Taiwan	Supervisors	191	191	100%
	Non-supervisors	1,366	1,366	100%
Nuvoton Japan	Supervisors	352	352	100%
	Non-supervisors	1,425	1,425	100%

- 1 Organizational governance unit: Since overseas subsidiaries (except Nuvoton Japan) are relatively small in scale and do not have governance units such as the Board of Directors, there is no data on the communication and training of organizational governance units.
- 2 Most of the overseas subsidiaries are research and development and business offices, and have not yet communicated their anti-corruption policies and procedures to their business partners.
- 3 The number of employees to be trained is calculated based on the total number of trainees in the month of training. Therefore, the total number of employees for each company will be different from the total number of employees on December 31 of the year due to personnel changes.
- 4 Nuvoton Taiwan's annual training on "Promotion of Corporate Integrity and Sustainable Development Guidelines" covers anti-corruption policy advocacy, and is expected to be provided to overseas subsidiaries for anti-corruption policy advocacy in 2025.

Training Hours

Nuvoton Taiwan						
Employee training hours	Supervisor Training Hours	Non-Supervisor Training Hours	Total Training Hours	Supervisor Average Hours	Non-Supervisor Average Hours	Average Training Hours
Female	1,890.67	21,567.22	23,457.89	79	34	36
Male	9,487.38	21,814.41	31,301.79	61	29	34
Total	11,378.05	43,381.63	54,759.68	63	31	35
Nuvoton Japan						
Employee training hours (hours)	Supervisor Training Hours	Non-Supervisor Training Hours	Total Training Hours	Supervisor Average Hours	Non-Supervisor Average Hours	Average Training Hours
Female	-	2,924	2,924	-	17.72	17.40
Male	2,969	11,778	14,747	8.36	10.31	9.85
Total	2,969	14,702	17,671	8.29	11.25	10.61
Overseas subsidiaries						
Employee training hours (hours)	Supervisor Training Hours	Non-Supervisor Training Hours	Total Training Hours	Supervisor Average Hours	Non-Supervisor Average Hours	Average Training Hours
Female	39	3,119	3,158	1.95	11.18	10.56
Male	3,630	12,355	15,985	8.66	8.96	8.89
Total	3,669	15,474	19,143	8.36	9.33	9.13

Diversity in Organizational Governance Units

Age of Nuvoton Board Members						Percentage
		Under 30 years old	31-50 years old	51 years old and above	Subtotal	
2021	Female	0	0	1	1	11%
	Male	0	0	8	8	89%
	Subtotal	0	0	9	9	100%
	Percentage	0%	0%	100%	100%	
2022	Female	0	1	0	1	9%
	Male	0	0	10	10	91%
	Subtotal	0	1	10	11	100%
	Percentage	0%	9%	91%	100%	
2023	Female	0	1	0	1	9%
	Male	0	0	10	10	91%
	Subtotal	0	1	10	11	100%
	Percentage	0%	9%	91%	100%	
2024	Female	0	1	0	1	9%
	Male	0	0	10	10	91%
	Subtotal	0	1	10	11	100%
	Percentage	0%	9%	91%	100%	

Talent Structure Composition^{1&2}

Company	Year	Contract Type ³	Employment Contract		Employment Type	
			Permanent Employee	Temporary Employee	Full-time Employee	Part-time Employee
Nuvoton Taiwan	2024	Female	660	3	663	0
		Male	919	12	931	0
		Total	1,579	15	1,594	0
	2023	Female	646	3	649	0
		Male	894	12	906	0
		Total	1,540	15	1,555	0
	2022	Female	662	4	666	0
		Male	873	11	884	0
		Total	1,535	15	1,550	0
	2021	Female	646	4	650	0
		Male	821	8	829	0
		Total	1,467	12	1,479	0
Nuvoton Japan	2024	Female	169	0	169	0
		Male	1,505	0	1,505	0
		Total	1,674	0	1,674	0
	2023	Female	162	0	162	0
		Male	1,497	0	1,497	0
		Total	1,659	0	1,659	0

Company	Year	Contract Type ³	Employment Contract		Employment Type	
			Permanent Employee	Temporary Employee	Full-time Employee	Part-time Employee
Nuvoton Japan	2022	Female	145	56	201	0
		Male	1,496	105	1,601	0
		Total	1,641	161	1,802	0
	2021	Female	117	43	160	0
		Male	1,343	79	1,422	0
		Total	1,460	122	1,582	0
Overseas subsidiaries	2024	Female	136	1	137	0
		Male	313	1	314	0
		Total	449	2	451	0
	2023	Female	136	1	137	0
		Male	305	11	316	0
		Total	441	12	453	0
	2022	Female	128	6	134	0
		Male	276	11	287	0
		Total	404	17	421	0
	2021	Female	121	2	123	0
		Male	266	12	278	0
		Total	387	14	401	0

¹ The data information here has been recompiled and the adjustment instructions compared with the previous year's report are detailed in [Appendix 3](#).

² In line with the disclosure from the parent company, Winbond, temporary employees include non-guaranteed hours employee.

³ The employee classification defines fixed-term contract employees as temporary employees and irregular contract employees as permanent employees according to GRI.

Employee Diversity Situation

Company		Nuvoton Taiwan						Nuvoton Japan						Overseas Subsidiaries					
Gender		Female		Male		Total		Female		Male		Total		Female		Male		Total	
Job rank		Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage
2021	Supervisors	21	3.23%	141	17.01%	162	10.95%	0	0.00%	130	10.36%	130	9.64%	21	17.36%	84	32.06%	105	27.42%
	Non-supervisors	629	96.77%	688	82.99%	1,317	89.05%	93	100%	1,125	89.64%	1,218	90.36%	100	82.64%	178	67.94%	278	72.58%
2022	Supervisors	24	3.60%	146	16.52%	170	10.97%	0	0.00%	163	10.88%	163	9.92%	19	14.62%	86	31.27%	105	25.93%
	Non-supervisors	642	96.40%	738	83.48%	1,380	89.03%	145	100%	1,335	89.12%	1,480	90.08%	111	85.38%	189	68.73%	300	74.07%
2023	Supervisors	24	3.70%	155	17.11%	179	11.51%	0	0.00%	166	11.09%	166	10.01%	18	13.04%	94	31.02%	112	25.40%
	Non-supervisors	625	95.30%	751	82.89%	1,376	88.49%	162	98.18%	1,331	88.91%	1,493	89.99%	120	86.96%	209	68.98%	329	74.60%
2024	Supervisors	27	4.07%	163	17.51%	190	11.92%	3	1.78%	329	21.86%	332	19.83%	17	12.41%	95	30.25%	112	24.83%
	Non-supervisors	636	95.93%	768	82.49%	1,404	88.08%	166	98.22%	1,176	78.14%	1,342	80.17%	120	87.59%	219	69.75%	339	75.17%

Company		Nuvoton Taiwan								Nuvoton Japan								Overseas subsidiaries							
Age		30 Under 30 years old		31-50 years old		51 years old and above		Total		30 Under 30 years old		31-50 years old		51 years old and above		Total		30 Under 30 years old		31-50 years old		51 years old and above		Total	
Job rank		Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage
2021	Supervisors	0	0.00%	88	9.51%	74	24.58%	162	10.95%	0	0.00%	44	8.48%	86	10.76%	130	9.64%	2	10.53%	58	22.92%	45	40.54%	105	27.42%
	Non-supervisors	253	100%	837	90.49%	227	75.42%	1,317	89.05%	30	100%	475	91.52%	713	89.24%	1,218	90.36%	17	89.47%	195	77.08%	66	59.46%	278	72.58%
2022	Supervisors	0	0.00%	84	8.81%	86	24.71%	170	10.97%	0	0.00%	62	8.30%	101	12.75%	163	9.92%	2	7.69%	55	21.24%	48	40.00%	105	25.93%
	Non-supervisors	249	100%	869	91.19%	262	75.29%	1,380	89.03%	104	100%	685	91.70%	691	87.25%	1,480	90.08%	24	92.31%	204	78.76%	72	60.00%	300	74.07%
2023	Supervisors	2	0.76%	92	9.65%	85	25.00%	179	11.51%	0	0.00%	82	11.40%	84	10.66%	166	10.01%	1	3.70%	54	19.71%	57	40.71%	112	25.40%
	Non-supervisors	260	99.24%	861	90.35%	255	75.00%	1,376	88.49%	152	100%	637	88.60%	704	89.34%	1,493	89.99%	26	96.30%	220	80.29%	83	59.29%	329	74.60%
2024	Supervisors	0	0.00%	102	10.63%	88	25.14%	190	11.92%	0	0.00%	113	17.44%	219	25.95%	332	19.83%	0	0.00%	52	19.26%	60	38.71%	112	24.83%
	Non-supervisors	284	100%	858	89.38%	262	74.86%	1,404	88.08%	182	100%	535	82.56%	625	74.05%	1,342	80.17%	26	100%	218	80.74%	95	61.29%	339	75.17%

Year	Company	Supervisory Staff		R&D/Production		Administration/Sales		Production Support	
		Number of People	Percentage	Number of People	Percentage	Number of People	Percentage	Number of People	Percentage
2021	Nuvoton Taiwan	162	10.95%	1,037	70.11%	115	7.78%	165	11.16%
	Nuvoton Japan	130	9.64%	762	56.53%	205	15.21%	251	18.62%
	Overseas subsidiaries	105	7.10%	168	43.86%	72	18.80%	38	9.92%
2022	Nuvoton Taiwan	170	10.97%	1,075	69.35%	129	8.32%	176	11.35%
	Nuvoton Japan	163	9.92%	991	60.32%	201	12.23%	288	17.53%
	Overseas subsidiaries	105	25.93%	182	44.94%	73	18.02%	45	11.11%
2023	Nuvoton Taiwan	179	11.51%	1,073	69.00%	128	8.23%	175	11.25%
	Nuvoton Japan	166	10.01%	999	60.22%	204	12.30%	290	17.48%
	Overseas subsidiaries	112	25.40%	203	46.03%	84	19.05%	42	9.52%
2024	Nuvoton Taiwan	190	11.92%	1,090	68.38%	137	8.59%	177	11.10%
	Nuvoton Japan	332	19.83%	874	52.21%	173	10.33%	295	17.62%
	Overseas subsidiaries	112	24.83%	216	47.89%	84	18.63%	39	8.65%

Year	Company	Number of Employees with Disabilities Employed		Weighted by the Degree of Disability
		Male	Female	
2021	Nuvoton Taiwan	4	2	7
	Nuvoton Japan	20	3	23
	Overseas subsidiaries	1	0	0
2022	Nuvoton Taiwan	8	3	15
	Nuvoton Japan	21	3	24
	Overseas subsidiaries	1	0	0
2023	Nuvoton Taiwan	8	3	16
	Nuvoton Japan	22	3	25
	Overseas subsidiaries	1	0	0
2024	Nuvoton Taiwan	8	2	15
	Nuvoton Japan	25	3	28
	Overseas subsidiaries	1	0	1

Company	Education	Year	2021	2022	2023	2024
Nuvoton Taiwan	PhD	Number of people	21	21	22	18
		Percentage	1.42%	1.35%	1.41%	1.13%
	Master's degree	Number of people	564	602	629	664
		Percentage	38.13%	38.84%	40.45%	41.66%
	Bachelor's degree	Number of people	509	561	551	579
		Percentage	34.42%	36.19%	35.43%	36.32%
	Associate degree	Number of people	128	124	120	115
		Percentage	8.65%	8.00%	7.72%	7.21%
	High school (and below)	Number of people	257	242	233	218
		Percentage	17.38%	15.61%	14.98%	13.68%
Nuvoton Japan	PhD	Number of people	18	21	23	26
		Percentage	1.34%	1.28%	1.39%	1.55%
	Master's degree	Number of people	456	599	607	620
		Percentage	33.83%	36.46%	36.59%	37.04%
	Bachelor's degree	Number of people	527	705	734	750
		Percentage	39.09%	42.91%	44.24%	44.80%
	Associate degree	Number of people	86	88	84	79
		Percentage	6.38%	5.36%	5.06%	4.72%
	High school (and below)	Number of people	261	230	211	199
		Percentage	19.36%	14.00%	12.72%	11.89%
Overseas subsidiaries	PhD	Number of people	6	7	7	6
		Percentage	1.57%	1.73%	1.59%	1.33%
	Master's degree	Number of people	74	71	82	88
		Percentage	19.32%	17.53%	18.59%	19.51%
	Bachelor's degree	Number of people	152	163	177	215
		Percentage	39.69%	40.25%	40.14%	47.67%
	Associate degree	Number of people	137	148	161	131
		Percentage	35.77%	36.54%	36.51%	29.05%
	High school (and below)	Number of people	14	16	14	11
		Percentage	3.66%	3.95%	3.17%	2.44%

The Number and Ratio of New Employees and Resignations¹

Nuvoton Taiwan

New employee	Employees (including interns)	Gender				Total	Age						Total	Region				Total
		Female		Male			Under 30 years old		31-50 years old		51 years old and above			Taiwan		Asia		
	2021	72	35.82%	129	64.18%	201	73	36.32%	118	58.71%	10	4.98%	201	185	92.04%	16	7.96%	201
New employee	2022	91	36.11%	161	63.89%	252	122	48.41%	122	48.41%	8	3.17%	252	213	84.52%	39	15.48%	252
	2023	27	26.21%	76	73.79%	103	43	41.75%	50	48.54%	10	9.71%	103	96	93.20%	7	6.80%	103
	2024	82	37.96%	134	62.04%	216	122	56.48%	89	41.20%	5	2.31%	216	178	82.41%	38	17.59%	216
Employee turnover	Employees (including interns)	Gender				Total	Age						Total	Region				Total
		Female		Male			Under 30 years old		31-50 years old		51 years old and above			Taiwan		Asia		
	2021	65	35.52%	118	64.48%	183	43	23.50%	105	57.38%	35	19.13%	183	171	93.44%	12	6.56%	183
	2022	73	41.48%	103	58.52%	176	40	22.73%	107	60.80%	29	16.48%	176	161	91.48%	15	8.52%	176
	2023	44	44.00%	56	56.00%	100	32	32.00%	49	49.00%	19	19.00%	100	84	84.00%	16	16.00%	100
	2024	68	38.42%	109	61.58%	177	58	32.77%	87	49.15%	32	18.08%	177	167	94.35%	10	5.65%	177

¹ The data information here has been recompiled and the adjustment instructions compared with the previous year's report are detailed in [Appendix 3](#).

Nuvoton Japan																		
New employee	Employees (including interns)	Gender				Total	Age						Total	Region				Total
		Female		Male			Under 30 years old		31-50 years old		51 years old and above			Taiwan		Asia		
	2021	8	13.56%	51	86.44%	59	17	28.81%	38	64.41%	4	6.78%	59	1	1.69%	58	98.31%	59
	2022	24	21.43%	88	78.57%	112	45	40.18%	52	46.43%	15	13.39%	112	6	5.36%	106	94.64%	112
	2023	23	21.90%	82	78.10%	105	61	58.10%	39	37.14%	5	4.76%	105	3	2.86%	102	97.14%	105
	2024	16	16.84%	79	83.16%	95	57	60.00%	30	31.58%	8	8.42%	95	3	3.16%	92	96.84%	95
Employee turnover	Employees (including interns)	Gender				Total	Age						Total	Region				Total
		Female		Male			Under 30 years old		31-50 years old		51 years old and above			Taiwan		Asia		
	2021	7	5.74%	115	94.26%	122	10	8.20%	32	26.23%	80	65.57%	122	0	0.00%	122	100%	122
	2022	7	6.86%	95	93.14%	102	9	8.82%	29	28.43%	64	62.75%	102	0	0.00%	102	100%	102
	2023	5	5.68%	83	94.32%	88	3	3.41%	39	44.32%	46	52.27%	88	0	0.00%	88	100%	88
	2024	13	9.77%	120	90.23%	133	10	7.52%	26	19.55%	97	72.93%	133	0	0.00%	133	100%	133

Overseas subsidiaries																								
New employee	Employees (including interns)	Gender				Total	Age						Total	Region										Total
		Female		Male			Under 30 years old		31-50 years old		51 years old and above			Taiwan		Asia		North America		Middle East		Europe		
	2021	15	24.19%	47	75.81%	62	13	21.31%	40	65.57%	8	13.11%	61	0	0.00%	33	54.10%	11	18.03%	0	0.00%	17	27.87%	61
	2022	18	32.73%	37	67.27%	55	14	25.45%	35	63.64%	6	10.91%	55	0	0.00%	25	45.45%	14	25.45%	0	0.00%	16	29.09%	55
	2023	18	28.13%	46	71.88%	64	18	28.13%	33	51.56%	13	20.31%	64	0	0.00%	28	43.75%	20	31.25%	0	0.00%	16	25.00%	64
	2024	13	25.00%	39	75.00%	52	14	26.92%	27	51.92%	11	21.15%	52	0	0.00%	24	46.15%	11	21.15%	0	0.00%	17	32.69%	52
Employee turnover	Employees (including interns)	Gender				Total	Age						Total	Region										Total
		Female		Male			Under 30 years old		31-50 years old		51 years old and above			Taiwan		Asia		North America		Middle East		Europe		
	2021	9	28.13%	23	71.88%	32	7	21.88%	19	59.38%	6	18.75%	32	0	0.00%	14	43.75%	9	28.13%	0	0.00%	9	28.13%	32
	2022	10	29.41%	24	70.59%	34	5	14.71%	25	73.53%	4	11.76%	34	0	0.00%	20	58.82%	9	26.47%	0	0.00%	5	14.71%	34
	2023	10	37.04%	17	62.96%	27	8	34.78%	12	52.17%	3	13.04%	23	0	0.00%	8	34.78%	11	47.83%	0	0.00%	4	17.39%	23
	2024	14	35.00%	26	65.00%	40	8	20.00%	14	35.00%	18	45.00%	40	0	0.00%	21	52.50%	10	25.00%	0	0.00%	9	22.50%	40

Parental Leave Status¹

Parental Leave Status in 2021		Nuvoton Taiwan			Nuvoton Japan		
	Female	Male	Total	Female	Male	Total	
Number of employees eligible for parental leave in 2021	69	92	161	13	114	127	
Number of employees who applied for parental leave in 2021	7	0	7	3	0	3	
A. Number of employees expected to return from parental leave in 2021	8	1	9	4	1	5	
B. Number of employees who actually returned from parental leave in 2021	6	0	6	4	1	5	
C. Number of employees who actually returned from parental leave in 2020	7	0	7	3	2	5	
D. Number of employees who continued working for one year after returning from parental leave in 2020	5	0	5	3	2	5	
Return rate (%)=B/A	75.00%	-	66.67%	100%	100%	100%	
Retention rate (%)=D/C	71.43%	-	71.43%	100%	100%	100%	
Parental Leave Status in 2022		Nuvoton Taiwan			Nuvoton Japan		
	Female	Male	Total	Female	Male	Total	
Number of employees eligible for parental leave in 2022	63	94	157	14	124	138	
Number of employees who applied for parental leave in 2022	7	1	8	2	2	4	
A. Number of employees expected to return from parental leave in 2022	9	1	10	2	2	4	
B. Number of employees who actually returned from parental leave in 2022	7	1	8	2	2	4	
C. Number of employees who actually returned from parental leave in 2021	6	0	6	4	1	5	
D. Number of employees who continued working for one year after returning from parental leave in 2021	5	0	5	4	1	5	
Return rate (%)=B/A	77.78%	100%	80%	100%	100%	100%	
Retention rate (%)=D/C	83.33%	-	83.33%	100%	100%	100%	

¹ The statistics for parental leave are for Nuvoton Taiwan and Nuvoton Japan, and based on labor rights regulated by local laws and regulations in Taiwan and Japan. The above statistics do not include other overseas subsidiaries.

Parental Leave Status in 2023		Nuvoton Taiwan			Nuvoton Japan		
	Female	Male	Total	Female	Male	Total	
Number of employees eligible for parental leave in 2023	53	97	150	16	136	152	
Number of employees who applied for parental leave in 2023	10	1	11	0	7	7	
A. Number of employees expected to return from parental leave in 2023	8	0	8	1	4	5	
B. Number of employees who actually returned from parental leave in 2023	7	0	7	1	4	5	
C. Number of employees who actually returned from parental leave in 2022	7	1	8	2	2	4	
D. Number of employees who continued working for one year after returning from parental leave in 2022	6	1	7	2	2	4	
Return rate (%)=B/A	87.50%	-	87.50%	100%	100%	100%	
Retention rate (%)=D/C	85.71%	100%	87.50%	100%	100%	100%	
Parental Leave Status in 2024		Nuvoton Taiwan			Nuvoton Japan		
	Female	Male	Total	Female	Male	Total	
Number of employees eligible for parental leave in 2024 ²	48	112	160	12	124	136	
Number of employees who applied for parental leave in 2024	8	3	11	3	5	8	
A. Number of employees expected to return from parental leave in 2024	9	3	12	0	7	7	
B. Number of employees who actually returned from parental leave in 2024	6	2	8	0	7	7	
C. Number of employees who actually returned from parental leave in 2023	7	0	7	1	4	5	
D. Number of employees who continued working for one year after returning from parental leave in 2023	6	0	6	1	4	5	
Return rate (%)=B/A	66.67%	66.67%	66.67%	-	100.00%	100.00%	
Retention rate (%)=D/C	85.71%	-	85.71%	100.00%	100.00%	100.00%	

² Eligibility for parental leave at Nuvoton Taiwan: The Company complies with the regulations of the "Gender Equality in Employment Act." Employees who apply for maternity and paternity leave within three years are eligible for parental leave.
 Eligibility for parental leave at Nuvoton Japan: According to internal regulations that exceed local labor laws, employees are eligible for parental leave until the April of the year their child starts elementary school.

ISO 45001 Occupational Health and Safety Management System Statistics

2024		Number of Employees Covered by Management System		Total Organizational Population		Proportion	
		Employees ¹	Non-employees ²	Employees	Non-employees	Employees	Non-employees
Nuvoton Taiwan	Unaudited	0	0	0	0	-	-
	Internally audited	1,581	55	1,581	55	100%	100%
	Externally audited or certified	852	48	1,581	55	53.89%	87.27%
Nuvoton Japan	Unaudited	0	0	0	0	-	-
	Internally audited	1,675	280	1,675	280	100%	100%
	Externally audited or certified	1,675	280	1,675	280	100%	100%
Overseas subsidiaries	Unaudited	0	0	237	6	0%	0%
	Internally audited	0	0	0	0	-	-
	Externally audited or certified	0	0	216	8	0%	0%

Social Participation Investment³

Item	Nuvoton Taiwan	Nuvoton Japan
Social participation investment (NT\$)	1,044,535	338,000
Number of participants in social participation	833	275
Hours invested in social participation (hours)	1,939	2,686

¹ For Nuvoton Taiwan, the number of employees is calculated based on the monthly average number of employees reported to the Ministry of Labor for occupational accidents; the number of employees of overseas subsidiaries is based on data as of December 31, 2024.

² The number of non-employees is calculated by dividing the total number of man-days in 2024 by 365 days.

³ Overseas subsidiaries focus on business and R&D, so related social participation activities are coordinated by the parent company.

Appendix 3: Index of GRI (Global Reporting Initiative)

Declaration of use	The Nuvoton Sustainability Report has been prepared in accordance with the GRI Standards. The reporting period for this report is the year 2024 (January 1, 2024 to December 31, 2024).
GRI 1 used	GRI 1: Foundation 2021
Applicable GRI sector standards	There are no applicable GRI Sector Standards yet; disclosure is made with reference to the SASB Industry Sustainability Accounting Standards.

GRI 2: General Disclosures 2021

Number	GRI Standard Disclosure Content	Corresponding Section	Page Number	Omission/Notes
GRI 2: General Disclosures 2021				
1. Organization and Reporting Practices				
2-1	Organizational details	1.1 Company Profile	009	
2-2	Entities included in the organization's sustainability reporting	About This Report	004	
2-3	Reporting period, frequency, and contact point	About This Report	004	
2-4	Restatements of information	-	-	<p>Length Change in the Baseline Year or Reporting Period</p> <p>2.4 The cumulative number of patents granted to Nuvoton Taiwan: Beginning in 2024, statistics has been based on data of Nuvoton following its separation from Winbond. Because of the delay between patent approval and system registration, the unrecorded quantity from 2023 has been included this year.</p>

Number	GRI Standard Disclosure Content	Corresponding Section	Page Number	Omission/Notes
2-4	Restatements of information			<p>Environmental data: The baseline year for environmental data in the report has been adjusted to 2021, in line with the voluntary reduction plan established by our company in response to Taiwan's carbon fee levy.</p> <p>Changes in measurement methods or definitions used</p> <p>3.2.1 2024 Consolidated financial performance: This year, the Company is included into the parent group Winbond's report, prompting an adjustment in the definition of retained economic value. It now encompasses personnel expenses, payments to investors and the government, as well as community investments.</p> <p>4.2 Greenhouse gas-related data and net carbon zero roadmap, Appendix 1 greenhouse gas data: The data has been revised based on the "Greenhouse Gas Emissions Coefficients" announced by the Ministry of Environment on February 5, 2024.</p>

Number	GRI Standard Disclosure Content	Corresponding Section	Page Number	Omission/Notes
2-4	Restatements of information	-		<p>4.3.1 Nuvoton Japan energy usage and internal energy consumption: Data revised due to the adoption of coefficients based on Japanese standards starting in 2024.</p> <p>5.1 Talent structure composition: Data for 2021-2023 revised for Nuvoton Taiwan and overseas subsidiaries due to the inclusion of personnel on leave in the statistics starting in 2024.</p> <p>5.2.3 Comparison of standard salary for junior-level employees to local minimum wage: Data for previous years revised as the definition of salary for junior-level employees in Nuvoton Japan changed to the starting salary of university graduates starting in 2024.</p> <p>5.2.3 Ratio of basic salary and remuneration of women to men: Data revised due to reclassification of personnel into more detailed job categories starting in 2024.</p> <p>Appendix 2 New employee hires and employee turnover: Data for 2023 was revised for Nuvoton Taiwan as personnel on leave are no longer counted as employee turnover starting in 2024.</p> <p>Errors that occurred in the previously reporting period have all been corrected in 2024.</p> <p>4.3.2 Water resource usage, 4.3.4 Nitrogen and sulfuric acid usage, Appendix 1 Nitrogen and sulfuric acid usage</p>
2-5	External assurance/ Verification	About This Report	004	

Number	GRI Standard Disclosure Content	Corresponding Section	Page Number	Omission/Notes
2. Activities and Workers				
2-6	Activities, value chain, and other business relationships	1.1 Company Profile 3.4.1 Composition and Overview of Supply Chain	009 072	
2-7	Employees	5.1 Overview of Talent	116	
2-8	Workers who are not employees	5.3.1 Workplace Safety	138	
3. Governance				
2-9	Governance structure and composition	3.1.1 Board of Directors	052	
2-10	Nomination and selection of the highest governance body	3.1.1 Board of Directors	052	
2-11	Chair of the highest governance body	3.1.1 Board of Directors	052	
2-12	Role of the highest governance body in overseeing the management of impacts	1.4 Analysis of Material Topic and Stakeholder Communication 3.1.1 Board of Directors	014 052	
2-13	Delegation of responsibility for managing impacts	1.3 Governance for Sustainable Development	013	
2-14	Role of the highest governance body in sustainability reporting	About This Report 1.4 Analysis of Material Topic and Stakeholder Communication	004 014	

Number	GRI Standard Disclosure Content	Corresponding Section	Page Number	Omission/Notes
2-15	Conflicts of interest	3.1.1 Board of Directors	052	
2-16	Communication of critical concerns	3.1.1 Board of Directors	052	
2-17	Collective knowledge of the highest governance body	3.1.1 Board of Directors	052	
2-18	Evaluation of the performance of the highest governance body	3.1.1 Board of Directors	052	
2-19	Remuneration policies	3.1.1 Board of Directors	052	
2-20	Process to determine remuneration	3.1.2 Functional Committees	056	
2-21	Annual total compensation ratio	-	-	In 2024, the median overall compensation of Nuvoton employees in Taiwan is approximately 12.9 times compared to the highest paid employees, while it is about 4.1 times for overseas subsidiaries and 6.2 times for Nuvoton Japan.
4. Strategy, Policies, and Practices				
2-22	Statement on sustainable development strategy	Message from the Management	005	
2-23	Policy commitments	3.4.2 Sustainable Supply Chain Management	074	
		5.1 Overview of Talent	116	

Number	GRI Standard Disclosure Content	Corresponding Section	Page Number	Omission/Notes
2-24	Embedding policy commitments	3.4.2 Sustainable Supply Chain Management	074	
		5.1 Overview of Talent	116	
2-25	Processes to remediate negative impacts	3.3.2 Integrity Operation	061	
2-26	Mechanisms for seeking advice and raising concerns	3.3.2 Integrity Operation	061	
2-27	Compliance with laws and regulations	3.3.1 Regulatory Compliance	060	
2-28	Membership of associations	1.1 Company Profile	009	
5. Stakeholder Engagement				
2-29	Approach to stakeholder engagement	1.4 Analysis of Material Topic and Stakeholder Communication	014	
2-30	Collective agreements	5.4 Employee Care and Communication	152	

GRI 3: Material Topics 2021

GRI Standard	Number	GRI Standard Disclosure Content	Corresponding Section	Page Number	Omission/Notes
GRI 3: Material Topics 2021	3-1	Process to determine material topics	1.4 Analysis of Material Topic and Stakeholder Communication	014	
	3-2	List of material topics	1.4 Analysis of Material Topic and Stakeholder Communication	014	
Material Topic: Regulatory compliance					
GRI 3: Material Topics 2021	3-3	Management of material tTopics	1.4 Analysis of Material Topic and Stakeholder Communication 3 Excellence in Governance	014 051	
Custom Topic	-	-			
Material Topic: Risk management					
GRI 3: Material Topics 2021	3-3	Management of material topics	1.4 Analysis of Material Topic and Stakeholder Communication 3 Excellence in Governance	014 051	
Custom Topic	-	-			
Material Topic: Integrity operation and corporate governance					
GRI 3: Material Topics 2021	3-3	Management of material topics	1.4 Analysis of Material Topic and Stakeholder Communication 3 Excellence in Governance	014 051	
GRI 205: Anti-Corruption	205-1	Operations assessed for risks related to corruption	3.3.2 Integrity Operation	061	
	205-2	Communication and training about anti-corruption policies and procedures	3.3.2 Integrity Operation Appendix 2: Social Data	061 171	
	205-3	Confirmed incidents of corruption and actions taken	-	-	No incidents of corruption occurred
GRI 206: Anti-Competitive Behavior	206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	3.3.1 Regulatory Compliance	060	
Material Topic: Supply chain management					
GRI 3: Material Topics 2021	3-3	Management of material topics	1.4 Analysis of Material Topic and Stakeholder Communication 3 Excellence in Governance	014 051	
GRI 204: Procurement Practices	204-1	Proportion of spending on local suppliers	3.4.1 Composition and Overview of Supply Chain	072	

GRI Standard	Number	GRI Standard Disclosure Content	Corresponding Section	Page Number	Omission/Notes
GRI 308: Supplier Environmental Assessment	308-1	New suppliers that were screened using environmental criteria	3.4.2 Sustainable Supply Chain Management	074	
	308-2	Negative environmental impacts in the supply chain and actions taken	3.4.2 Sustainable Supply Chain Management	074	
GRI 414: Supplier Social Assessment	414-1	New suppliers that were screened using social criteria	3.4.2 Sustainable Supply Chain Management	074	
	414-2	Negative social impacts in the supply chain and actions taken	3.4.2 Sustainable Supply Chain Management	074	
Material Topic: Productivity and business performance					
GRI 3: Material Topics 2021	3-3	Management of material topics	1.4 Analysis of Material Topic and Stakeholder Communication	014	
			3 Excellence in Governance	051	
GRI 201: Economic Performance	201-1	Direct economic value generated and distributed	3.2.1 Economic Performance	057	
	201-3	Defined benefit plan obligations and other retirement plans	5.4 Employee Care and Communication	152	
	201-4	Financial assistance received from government	-		The tax reduction applicable to R&D expenditures in Article 10 of the Statute for Industrial Innovation and 5G smart machinery investment amounted to NT\$ 67,645,000; R&D subsidy was NT\$ 21 million in 2024.
Material Topic: Innovation in research and development					
GRI 3: Material Topics 2021	3-3	Management of material topics	1.4 Analysis of Material Topic and Stakeholder Communication 2 Green Products	014 033	
Custom Topic	-	-	-		
Material Topic: Green Products					
GRI 3: Material Topics 2021	3-3	Management of material topics	1.4 Analysis of Material Topic and Stakeholder Communication 2 Green Products	014 033	
			2.3.1 Product Quality Management	048	
GRI 417: Marketing and Labeling 2016	417-1	Requirements for product and service information and labeling	2.3.1 Product Quality Management	048	
	417-2	Incidents of non-compliance concerning product and service information and labeling	-		No incidents of non-compliance concerning product and service information and labeling
	417-3	Incidents of non-compliance concerning marketing communications	-		No incidents of non-compliance concerning marketing communications

GRI Standard	Number	GRI Standard Disclosure Content	Corresponding Section	Page Number	Omission/Notes
Material Topic: Energy and greenhouse gas management					
GRI 3: Material Topics 2021	3-3	Management of material topics	1.4 Analysis of Material Topic and Stakeholder Communication	014	
			4 Environmental Sustainability	083	
GRI 302: Energy	302-1	Energy consumption within the organization	4.3.1 Energy Management	100	
	302-2	Energy consumption outside of the organization	No related statistics yet; future assessments will consider implementation	-	
	302-3	Energy intensity	4.3.1 Energy Management	100	
	302-4	Reduction of energy consumption	4.3.1 Energy Management	100	
GRI 305: Emissions	305-1	Direct (Scope 1) GHG emissions	4.2 Greenhouse Gas Management	096	
			Appendix 1: Environmental Data	163	
	305-2	Energy indirect (Scope 2) GHG emissions	4.2 Greenhouse Gas Management	096	
			Appendix 1: Environmental Data	163	
	305-3	Other indirect (Scope 3) GHG emissions	4.2 Greenhouse Gas Management	096	
		Appendix 1: Environmental Data	163		
	305-4	GHG emissions intensity	Appendix 1: Environmental Data	163	
	305-5	Reduction of GHG emissions	4.2 Greenhouse Gas Management	096	
			Appendix 1: Environmental Data	163	
Material Topic: Talent management					
GRI 3: Material Topics 2021	3-3	Management of material topics	1.4 Analysis of Material Topic and Stakeholder Communication	014	
			5 Safe Workplace	114	
GRI 401: Employment	401-1	New employee hires and employee turnover	5.2.1 Talent Recruitment and Retention	126	
	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	5.2.3 Compensation and Benefits	133	
	401-3	Parental leave	5.2.3 Compensation and Benefits	133	

GRI Standard	Number	GRI Standard Disclosure Content	Corresponding Section	Page Number	Omission/Notes
GRI 403: Occupational Health and Safety	403-1	Occupational health and safety management system	5.3.1 Workplace Safety	138	
	403-2	Hazard identification, risk assessment, and incident investigation	5.3.1 Workplace Safety	138	
	403-3	Occupational health services	5.3.2 Healthy Workplace	146	
	403-4	Worker participation, consultation, and communication on occupational health and safety	5.3.1 Workplace Safety	138	
	403-5	Worker training on occupational health and safety	5.3.1 Workplace Safety	138	
	403-6	Promotion of worker health	5.3.2 Healthy Workplace	146	
	403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	5.3.1 Workplace Safety	138	
	403-8	Workers covered by an occupational health and safety management system	5.3.1 Workplace Safety	138	
	403-9	Work-related injuries	5.3.2 Healthy Workplace	146	
	403-10	Work-related ill health	5.3.2 Healthy Workplace	146	
GRI 404: Training and Education	404-1	Average hours of training per year per employee	5.2.2 Talent Development	129	
	404-2	Programs for upgrading employee skills and transition assistance programs	5.2.2 Talent Development 5.4 Employee Care and Communication	129 152	
	404-3	Percentage of employees receiving regular performance and career development reviews	5.2.3 Remuneration and Benefits	133	
GRI 405: Diversity and Equal Opportunity	405-1	Diversity of governance bodies and employees	3.1.1 Board of Directors 5.1 Overview of Talent Appendix 2: Social Data	052 116 171	
	405-2	Ratio of basic salary and remuneration of women to men	5.2.3 Remuneration and Benefits	133	
GRI 406: Non-Discrimination	406-1	Incidents of discrimination and corrective actions taken	5.1 Overview of Talent	116	
GRI 408: Child Labor	408-1	Operations and suppliers at significant risk for incidents of child labor	3.4.2 Sustainable Supply Chain Management 5.1 Overview of Talent	074 116	

Appendix 4: Sustainability Accounting Standards (SASB) Index

Semiconductors Industry

Indicator Category	SASB Topic	Code	Metric	Category	Disclosure Section	Page Number
Accounting Indicator	Greenhouse Gas Emissions	TC-SC-110a.1	(1) Gross global Scope 1 emissions (2) Total emissions from perfluorinated compounds	Quantitative	4.2 Greenhouse Gas Management Appendix 1: Environmental Data	096 163
		TC-SC-110a.2	Discussion of long- and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	Discussion and Analysis	4.2 Greenhouse Gas Management	096
	Energy Management in Manufacturing	TC-SC-130a.1	(1) Total energy consumed (2) Percentage grid electricity (3) Percentage renewable	Quantitative	4.3.1 Energy Management	100
	Water Management	TC-SC-140a.1	(1) Total water withdrawn (2) Total water consumed; percentage of each in regions with high or extremely high baseline water stress	Quantitative	4.3.2 Water Resource Management	105
	Waste Management	TC-SC-150a.1	(1) Amount of hazardous waste from manufacturing (2) Percentage recycled	Quantitative	4.3.3 Circular Economy Appendix 1: Environmental Data	110 163
	Workforce Health & Safety	TC-SC-320a.1	Description of efforts to assess, monitor, and reduce exposure of workforce to human health hazards	Discussion and Analysis	5.3.2 Healthy Workplace	146
		TC-SC-320a.2	Total amount of monetary losses as a result of legal proceedings associated with employee health and safety violations	Quantitative	No penalties associated with occupational safety and health violations in 2024.	
	Recruiting & Managing a Global & Skilled Workforce	TC-SC-330a.1	Percentage of employees that require a work visa	Quantitative	Proportion of full-time and part-time employees holding work visas Nuvoton Taiwan: 8.22% (131 people) Nuvoton Japan: 2.57% (43 people) Overseas Subsidiaries: 6.21% (28 people)	

Indicator Category	SASB Topic	Code	Metric	Category	Disclosure Section	Page Number																								
Accounting Indicator	Product Lifecycle Management	TC-SC-410a.1	Percentage of products by revenue that contain IEC 62474 declarable substances	Quantitative	No IEC 62474 declarable products	074																								
		TC-SC-410a.2	Processor energy efficiency at a system level for: (1) Servers (2) Desktops (3) Laptops	Quantitative	Non-end product manufacturer, no applicable content.																									
	Materials Sourcing	TC-SC-440a.1	Description of the management of risks associated with the use of critical materials	Discussion and Analysis	3.4.2 Sustainable Supply Chain Management																									
	Intellectual Property Protection & Competitive Behavior	TC-SC-520a.1	Total amount of monetary losses as a result of legal proceedings associated with anti-competitive behavior regulations	Quantitative	No violation of relevant laws in 2024.																									
Total production TC-SC-000.B		TC-SC-000.A	Total production	Quantitative	<table><tr><th rowspan="2">Main Product</th><th rowspan="2">Capacity (Note)</th><th colspan="2">Yield</th><th rowspan="2">Output Value</th></tr><tr><th>Wafer</th><th>Die</th></tr><tr><td>General IC</td><td rowspan="3">531</td><td>11</td><td>2,623,013</td><td>15,198,567</td></tr><tr><td>Wafer foundry</td><td>425</td><td>1</td><td>1,364,985</td></tr><tr><td>Other</td><td>-</td><td>-</td><td>15,163</td></tr><tr><td>Total</td><td></td><td>436</td><td>2,623,014</td><td>16,578,715</td></tr></table>	Main Product	Capacity (Note)	Yield		Output Value	Wafer	Die	General IC	531	11	2,623,013	15,198,567	Wafer foundry	425	1	1,364,985	Other	-	-	15,163	Total		436	2,623,014	16,578,715
					Main Product			Capacity (Note)	Yield		Output Value																			
						Wafer	Die																							
					General IC	531	11	2,623,013	15,198,567																					
					Wafer foundry		425	1	1,364,985																					
					Other		-	-	15,163																					
		Total		436	2,623,014	16,578,715																								
Note: Production capacity is expressed in terms of self-manufactured 6-inch wafers. Fab-C in Uozu, Japan, was closed in March 2023.																														
TC-SC-000.B	Percentage of production from owned facilities	Quantitative	Nuvoton Taiwan 27.2%; Nuvoton Japan 0%																											

Appendix 5: Sustainability Disclosure Indicators - Semiconductor Industry

Indicator	Indicator Type	Unit	Annual Disclosure
Total energy consumption, percentage of purchased electricity, and rate of renewable energy use	Quantitative	Gigajoule (GJ); percentage (%)	4.3.1 Energy Management
Total water withdrawal and total water consumption	Quantitative	Thousand cubic meter (m³)	4.3.2 Water Resource Management
Weight of hazardous waste generated and percentage of hazardous waste recycled	Quantitative	Metric ton (t); percentage (%)	4.3.3 Circular Economy Appendix 1: Environmental Data
Category, number and rate of individuals subject to occupational accidents	Quantitative	Rate (%); number	Appendix 2: Social Data
Disclosure of life cycle management of products: including the weight of end-of-life products and e-waste and the percentage of recycled*	Quantitative	Metric ton (t); percentage (%)	Not applicable Nuvoton’s IC design and development, as well as wafer foundry production of components, are provided to customers for use in the assembly and sale of electronic products. The sales, repair of faulty electronic products, replacement of parts, or disposal of waste are managed by the customers.
Description of the risk management associated with the use of key materials	Qualitative	Not applicable	3.4.2 Sustainable Supply Chain Management
Total amount of monetary losses as a result of legal proceedings associated with the act of anti-competitive behaviors	Quantitative	Reporting currency	No incidents of Nuvoton involving ethical management issues such as fraud, insider trading, anti-competitive behavior, antitrust and monopoly practices, or market manipulation and no legal proceedings or penalties arising therefrom in 2024.
Production of major products by product line by product category	Quantitative	Varied by product type	Please refer to the Nuvoton 2024 Annual Report .

Appendix 6: TWSE/TPEx-Listed Companies Climate-related Information

1. Implementation of Climate-Related Information

Item	Execution/Corresponding Chapter
Describe the board of directors’ and management’s oversight and governance of climate-related risks and opportunities	<p>Please refer to the Nuvoton 2024 Annual Report page 49-53.</p>
Describe how the identified climate risks and opportunities affect the business, strategy, and finances of the business (short-, mid-, and long-term)	
Describe the financial impact of extreme weather events and transformative actions	
Describe how climate risk identification, assessment, and management processes are integrated into the overall risk management system	
If scenario analysis is used to assess resilience to climate change risks, the scenarios, parameters, assumptions, analysis factors and major financial impacts used should be described.	
If there is a transition plan for managing climate-related risks, describe the content of the plan, and the indicators and targets used to identify and manage physical risks and transition risks.	
If internal carbon pricing is used as a planning tool, the basis for setting the price should be stated.	
If climate-related targets have been set, the activities covered, the scope of greenhouse gas emissions, the planning horizon, and the progress achieved each year should be specified. If carbon credits or renewable energy certificates (RECs) are used to achieve relevant targets, the source and quantity of carbon credits or RECs to be offset should be specified.	
Greenhouse gas inventory and assurance status and reduction targets, strategy, and concrete action plan	<p>4 Environmental Sustainability: The tables below</p>

1-1 Greenhouse Gas Inventory and Assurance Status for the Most Recent 2 Fiscal Years

1-1-1 Greenhouse Gas Inventory Information

Explanation of greenhouse gas emissions in the most recent two years in tons of CO₂e, intensity in tons of CO₂e per million NT\$, and data coverage

1. The parent company entity should start inventorying from 2026 (115 Republic of China calendar).

2. Subsidiaries included in the consolidated financial statements should start inventorying from 2027 (116 Republic of China calendar).

Nuvoton Taiwan, established in 2008, with the Yanshin plant as part of the wafer manufacturing facility, has conducted annual greenhouse gas inventories for 16 consecutive years to understand its carbon emissions. This helps identify "carbon hotspots" and enables targeted energy-saving and carbon reduction strategy planning for the plant.

The company has established a greenhouse gas inventory mechanism in accordance with the Greenhouse Gas Protocol published by the World Business Council for Sustainable Development (WBCSD) and the World Resources Institute (WRI), and the ISO 14064-1 greenhouse gas inventory standard published by the International Organization for Standardization (ISO). Since 2020 (109 Republic of China calendar), the Company has conducted annual inventories of its own entity, and since 2023 (112 Republic of China calendar), it has included the greenhouse gas emissions of subsidiaries in the consolidated financial statements to fully grasp the usage and emissions of greenhouse gases and verify the effectiveness of reduction actions. Additionally, the recent two-year greenhouse gas inventory data is summarized according to the operational control method, including the emissions of the Company and all subsidiaries in the consolidated financial statements, as follows:

		2023		2024	
		Emissions (tons CO ₂ e)	Intensity (tons CO ₂ e per million NT\$ revenue)	Emissions (tons CO ₂ e)	Intensity (tons CO ₂ e per million NT\$ revenue)
The Company	Scope 1 direct greenhouse gas emissions	29,718		20,547	
	Scope 2 indirect greenhouse gas emissions	35,495		33,771	
	Subtotal	65,213		54,318	
All subsidiaries in consolidated financial statements	Scope 1 direct greenhouse gas emissions	21,045		17,971	
	Scope 2 indirect greenhouse gas emissions	62,855		51,238	
	Subtotal	83,900		69,209	
Total		149,113	3.91	123,527	3.87

1-1-2 Greenhouse Gas Assurance Information

Description of the assurance status for the most recent two years as of the annual report printing date, including the scope of assurance, assurance organizations, assurance standards, and assurance opinions

1. The parent company entity should begin assurance from 2027 (116 Republic of China calendar).
2. Subsidiaries included in the consolidated financial statements should begin assurance from 2028 (117 Republic of China calendar).

In the disclosure of the total greenhouse gas emissions in 1-1-1, the assurance scope for 2022 and 2023 was for the Company’s entity; the assurance scope for 2023 was for the subsidiaries in the consolidated financial statements, accounting for 100% of the total emissions of the consolidated financial statement subsidiaries for that year. The assurance was performed by DNV GL and Japan Quality Assurance Organization (JQA)¹ in accordance with ISO 14064-3:2019, and the assurance opinions were all unqualified at a reasonable assurance level.

The assurance status of the greenhouse gas inventory of the Company and its consolidated financial statement subsidiaries for the most recent two years is as follows:

Scope of Assurance		2023 Emissions (tons CO ₂ e)	2024 Emissions (tons CO ₂ e)
The Company	Scope 1 direct greenhouse gas emissions	29,718	20,547
	Scope 2 indirect greenhouse gas emissions	35,495	33,771
	Subtotal	65,213	54,318
	Percentage of the inventory data disclosed in 1-1-1	100%	100%
All subsidiaries in consolidated financial statements	Scope 1 direct greenhouse gas emissions	21,045	17,971
	Scope 2 indirect greenhouse gas emissions	62,855	51,238
	Subtotal	83,900	69,209
	Percentage of the inventory data disclosed in 1-1-1	100%	100%
Assurance organizations		DNV GL (DNV Taiwan) Japan Quality Assurance Organization (JQA)	DNV GL (DNV Taiwan) Japan Quality Assurance Organization (JQA)
Assurance status		ISO 14064-3:2019 published by the International Organization for Standardization (ISO)	ISO 14064-3:2019 published by the International Organization for Standardization (ISO)
Assurance opinion/conclusion		Unqualified opinion	Unqualified opinion

1 Nuvoton Japan’s verification organization is the Japan Quality Assurance Organization (JQA). With the exception of Nuvoton Japan, Nuvoton Taiwan and all other subsidiaries are verified by DNV GL.

Description of the baseline year for greenhouse gas reduction and its data, reduction targets, strategies, specific action plans, and the achievement of reduction targets

Baseline Year and Reduction Targets for Greenhouse Gas Reduction (Baseline year is 2021¹)

Nuvoton integrates carbon management into its operational strategy, including the establishment of a carbon management platform and the implementation of ISO 50001 energy management system to seek breakthroughs in carbon reduction. In response to international carbon pricing trends and the anticipated carbon fees under Taiwan’s “Climate Change Response Act,” as well as carbon emission regulations worldwide, these mechanisms are used to evaluate opportunities brought by low-carbon transition and to adjust relevant policies and programs on a rolling basis: developing measures to improve energy efficiency, purchasing energy-saving equipment, installing solar power systems, reducing greenhouse gas raw material sources, installing high-efficiency greenhouse gas destruction equipment, and evaluating the adoption of low-carbon fuels/energy to ensure the reduction meets progress, actively reducing the impact of carbon emissions and enhancing operational competitiveness.

Process improvements, low-carbon investments, and carbon reduction projects such as the installation and purchase of renewable energy.

Short-, mid-, and long-term:

- 1. Scope 1: Continuously installing fluorinated gas treatment equipment in processes to reduce emissions and optimizing the efficiency of cogeneration in the Japanese plant to lower direct energy consumption. As a result, Nuvoton aims for a global reduction of 73% by 2025 and 77% by 2030.
- 2. Scope 2: Through the installation of solar renewable energy equipment, purchase of green electricity, and various energy-saving measures, set a global reduction target for Nuvoton of 25% by 2025 and 30% by 2030.
- 3. The overall reduction for the aforementioned two scopes is 45% by 2025, 50% by 2030, and net carbon zero by 2050.

The estimated total emissions of Nuvoton’s Scope 1 and Scope 2 greenhouse gases for 2025 and 2030 are 117,236 t CO₂e and 108,020 t CO₂e, respectively.

Greenhouse Gas Reduction Strategies and Specific Action Plans

Nuvoton continues to plan greenhouse gas reduction strategies, completing the first global inventory

and third-party verification for the consolidated company in 2023 based on the boundaries of the consolidated financial statements. Through the following strategies and specific actions for climate change response and greenhouse gas management, Nuvoton aims to further implement its mid- and long-term (2030) greenhouse gas reduction goals.

- 1. Nuvoton has set the ultimate goal for achieving net carbon zero in 2050, actively responding to the global trend of net carbon zero.
- 2. Nuvoton plans to establish an energy management system (ISO 50001) to systematically and traceably reduce indirect carbon dioxide emissions from fossil fuel combustion during electricity use. Nuvoton Taiwan has already obtained certification, and another operational site, Nuvoton Japan, is in the process of establishment, aiming for certification by 2025.
- 3. For Scope 1 and 2, Nuvoton has reviewed its operations and manufacturing processes, adding greenhouse gas treatment equipment to reduce emissions, improve operational efficiency, reduce energy consumption, and actively increase its renewable energy installations.
- 4. In Scope 3, the Company continues to collaborate with suppliers to move towards energy-saving and carbon-reduction pathways. By reducing the carbon footprint of products and improving efficiency, Nuvoton helps customers reduce carbon emissions during the manufacturing process and lower energy consumption during use, achieving the goal of energy saving and carbon reduction through the product’s effectiveness.

Nuvoton’s energy-saving and carbon reduction projects include investments in solar renewable energy and fluorinated gas reduction equipment in processes. Each production base installs energy-saving equipment as appropriate (including chiller updates, cogeneration equipment updates, and optimized operations). In 2023, Nuvoton Taiwan completed the installation of renewable energy covering 10% of the contract capacity (producing 1,000,000 kWh annually). Three fluorinated gas reduction equipment units in 2023 and two fluorinated gas reduction equipment units in 2024 were installed and operational in the process, with plans to install more equipment (chillers, reduction equipment, energy-saving equipment and so forth) annually to increase reductions.

Nuvoton’s products offer services to customers, such as applications in electric vehicles and power management, continuously innovating energy-saving products. During the initial development stages, designs focused on energy efficiency and high performance are incorporated into the products to reduce unnecessary leakage currents and overall power consumption.

¹ The baseline year 2021 greenhouse gas emissions were back-calculated using the United Nations IPCC 2019 edition and AR5 coefficients.

Appendix 7: KPIs of Taiwan Sustainable Taxonomy

Measurement Item	Measurement Steps	
	Operating Entity	Solar Power Installation Project ¹
(1) The company identifies its main economic activities, with their proportion of total revenue in the past year.	100%	Not applicable
(2) The company identifies whether the main economic activities fall under the “General Economic Activities” or “Supporting Economic Activities” as defined in this guideline.	General Economic Activities ²	Supporting Economic Activities ³
(3) Judgement on whether the activities meet the criteria for sustainable economic activities based on the following three conditions. ⁴		
Condition 1: Meets the technical screening criteria for making a substantial contribution to any environmental objective	Compliant ⁵	Not applicable
Condition 2: Meets the criteria of not causing significant harm to any of the six environmental objectives	Compliant	Compliant
Condition 3: Meets the criteria of not causing significant harm to social protection	Compliant	Compliant
Measurement result: Whether each economic activity complies with this guideline and its degree of sustainability	Compliant	Compliant

1

In 2023, Nuvoton Taiwan launched an energy-saving and carbon reduction project by installing solar energy facilities at its headquarters (Yanshin plant). In the same year, it completed the installation of renewable energy with a contracted capacity accounting for 8% (installed capacity of 819 kW, capable of generating 1 million kWh annually), actively increasing the proportion of self-generated green electricity to further reduce the carbon footprint of its operations.

2

The reference material is the “Second Edition of Taiwan Sustainable Taxonomy” issued by the Financial Supervisory Commission on December 31, 2024, which corresponds to Nuvoton’s industry-specific response schedule 10 semiconductor industry.

3

The reference material is the “Second Edition of Taiwan Sustainable Taxonomy” issued by the Financial Supervisory Commission on December 31, 2024, Appendix 3: Supportive Economic Activities (formerly known as “Forward-looking Economic Activities”).

4

The reference material is the “Second Edition of Taiwan Sustainable Taxonomy” issued by the Financial Supervisory Commission on December 31, 2024, Appendix 1: Explanation of the Six Environmental Objectives and Social Security, and Common Applicable Regulations.

5

Nuvoton Integrated Circuit (IC) manufacturing reported greenhouse gas emissions per unit product for the most recent year (Scope 1 + Scope 2) at 0.607 kg CO₂e/cm², significantly below the standard value for wafers below 6 inches, which is ≤ 2.18 kg CO₂e/cm².

Appendix 8: Third Party Verification Statement



Independent Assurance Statement

Nuvoton Technology Corporation 2024 Sustainability Report

Introduction:

TÜV Rheinland Taiwan Ltd., member of TÜV Rheinland Group, Germany (hereinafter “TÜV Rheinland Taiwan”, “We”) has been entrusted by the management of Nuvoton Technology Corporation (hereinafter “Nuvoton”, “the Company”) to conduct independent assurance of Nuvoton 2024 Sustainability Report (hereinafter “the Report”). All contractual contents for this assurance engagement rest entirely within the responsibility of Nuvoton. Our task was to give a fair and adequate judgment on the Nuvoton 2024 Sustainability Report.

The intended users of this assurance statement are stakeholders having relevance to the Nuvoton overall Sustainability Performance and impacts of its business activities during 2024 (January 2024 ~ December 2024). TÜV Rheinland Group is a global service provider of CSR & Sustainability Services in over 65 countries, having qualified professionals in the field of Corporate Sustainability Assurance, Environment, Social and Stakeholder Engagement. We have maintained complete impartiality and independence during the assurance engagement and were not involved in the preparation of report contents.

Assurance Standard:

TÜV Rheinland Taiwan undertook the assurance work in accordance with the AA1000 Assurance Standard v3 (AA1000AS v3) Moderate level of assurance and AA1000 SES (2015).

Scope & Type of Assurance:

Our assurance engagement was carried out in accordance with the AA1000AS v3, Type 1, Moderate level on Nuvoton's sustainability performance disclosed in the Report and evaluated the information and data. The following assurance criteria were used in performing the assurance work:

- In accordance with GRI Universal Standards 2021 and performance indicators and according to disclosure on management approach (DMAs) from Economic, Environment & Social category, also defined in Reporting boundaries.
- Adherence to the AA1000 AccountAbility Principles (2018) of Inclusivity, Materiality, Responsiveness, and Impact.

Limitation: TÜV Rheinland Taiwan performed the assurance based on the scope of defined engagement agreement, and on a moderate level assurance under the AA1000 Assurance Standard v3 for engagement. The assurance engagement was carried out at Nuvoton Hsinchu Headquarters and Zhubei Office in Hsinchu City and Hsinchu County, Taiwan. The consultations with external stakeholders were not carried out. Information and performance data subject to assurance is limited to the contents of the Report. Information and performance data subject to assurance is limited to the contents of the Report. We did not verify the reported financial data as same is verified by another third party in the annual report.

Assurance Methodology:

TÜV Rheinland Taiwan's assurance activities included:

- Assuring Nuvoton's ESG-related management practices and processes, to evaluate relevant management systems, including sustainability strategy, management policy, corporate governance, compliance management, risk management, stakeholder engagement, material issue analysis and impact, and key performance.
- Conducting interviews with over 40 Nuvoton's senior management and managers responsible for gathering and analyzing information on ESG-related performance.
- Reviewing and examining sustainability strategy, management practices, and performance information and data to test the accuracy of such information and data through random sampling principles and applied analytical procedures.
- Collecting documentary evidence and assessing management representations to support the extent to which Nuvoton adherence to the Accountability Principles.

- The Verification Executive Team was comprised of our multidisciplinary, experienced professionals in the field of Corporate Sustainability, Environment, Social and Stakeholder Engagement.

Adherence to AA 1000 principles:

Inclusivity:

Nuvoton has continually sought the engagement of its stakeholders, identify and understand their stakeholder, and use the communication mechanism to identify the material issues and achieve an accountable response.

Materiality:

Nuvoton has implemented material issues identification processing. The identification was based on the requirements and focus of attention of the stakeholder, the consideration of the company internal policy, shareholders meeting, questionnaires and the understanding and communication on the sustainable development content. The sustainability information disclosed enables its stakeholders to make informed judgements about Nuvoton's management and performance.

Responsiveness:

Nuvoton has implemented the policy including environment and safety, quality, and corporate sustainability. The 2024 report disclosed the management system of the company and stakeholder engagement, responding to their stakeholders against material issues of sustainable development.

Impact:

Nuvoton has identified and fairly represented impacts that were measured and disclosed in an effective way. Nuvoton has established processes to monitor, measure, evaluate and manage impacts that lead to more effective decision-making and results-based management within the organization.

Conclusion:

In conclusion, we can mention that no instances or information came to our attention that would be contrary to the statement made below:

- Nuvoton Technology Corporation 2024 Sustainability Report meets the requirement of Type-1, Moderate Level Assurance according to AA1000AS v3 and Global Reporting Initiative (GRI) Universal Standards 2021.
- The Report includes statements and claims that reflects Nuvoton achievements and challenges supported by documentary evidence and internal records.
- The performance data we found in the report were collected, stored and analyzed in a systematic and professional manner and were plausible.
- TÜV Rheinland Taiwan shall not bear any liability or responsibility to a third party for perception and decision about Nuvoton based on this Assurance Statement.



Taipei, May 28th, 2025

Vito Lin

Vito C. C. Lin

Technical Manager

TÜV Rheinland Taiwan Ltd.

Joy of innovation
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