

Appendix

Appendix I, Environmental Data

Appendix II, Social Data

Appendix III, Index of GRI (Global Reporting Initiative)

Appendix IV, Sustainability Accounting Standards (SASB) Index

Appendix V, Sustainability Disclosure Indicators - Semiconductor Industry

Appendix VI, TWSE/TPEX-Listed Companies Climate-related Information

Appendix VII, Third-Party Verification Statement

Appendix I: Environmental Data

Introduction

CH1
Sustainability
Communication

CH2
Green
Products

CH3
Excellence in
Governance

CH4
Environmental
Sustainability

CH5
Safe
Workplace

CH6
Social
Prosperity

Category	Item	Unit	2021	2022	2023
Greenhouse gases ¹	Scope 1 Total (Nuvoton Taiwan)	t-CO ₂ e	36,152	37,795	18,749
	Scope 1 Total (Nuvoton Japan)	t-CO ₂ e	34,192	31,051	20,830
	Scope 1 Total	t-CO ₂ e	70,344	68,846	39,579
	Scope 2 Total (Nuvoton Taiwan) ³	t-CO ₂ e	36,313	37,740	35,495
	Scope 2 Total (Nuvoton Japan)	t-CO ₂ e	106,635	83,403	61,810
	Scope 2 Total	t-CO ₂ e	142,948	121,143	97,305
	Scope 3 Total (Nuvoton Taiwan) ³	t-CO ₂ e	—	92,268	98,972
	Scope 3 Total (Nuvoton Japan) ⁴	t-CO ₂ e	—	—	625,940
	Scope 3 Total	t-CO ₂ e	—	92,268	724,911
	HFCs Emissions (Nuvoton Taiwan)	t-CO ₂ e	10,950	11,529	6,485
	PFCs Emissions (Nuvoton Taiwan)	t-CO ₂ e	10,637	11,430	6,527
	SF6 Emissions (Nuvoton Taiwan)	t-CO ₂ e	12,107	12,312	3,926
	NF3 Emissions (Nuvoton Taiwan)	t-CO ₂ e	602	602	349
	HFCs Emissions (Nuvoton Japan)	t-CO ₂ e	608	840	3
	PFCs Emissions (Nuvoton Japan)	t-CO ₂ e	6,653	5,987	1,389
	SF6 Emissions (Nuvoton Japan)	t-CO ₂ e	18	227	667
	NF3 Emissions (Nuvoton Japan)	t-CO ₂ e	148	74	0
	Greenhouse Gas Emissions Intensity (Nuvoton Taiwan)	t-CO ₂ e/million NT\$	6.34	5.17	2.85
	Greenhouse Gas Emissions Intensity (Nuvoton Japan)	t-CO ₂ e/million NT\$	7.05	5.26	3.81
	Greenhouse Gas Emissions Intensity (Nuvoton Taiwan)	kg-CO ₂ e/ cm2 of wafer	0.70	0.68	0.65
Greenhouse Gas Emissions Intensity (Nuvoton Taiwan) ⁵	kgCO ₂ e/layer-wafer mask	7.32	7.16	6.74	

¹ Greenhouse gas emissions are calculated using the operational control method. The calculation method is activity data * emission factor * GWP value. Nuvoton Taiwan's 2020-2022 data GWP values reference IPCC 2006 AR4 version, and 2023 data GWP values reference IPCC 2006 AR5 version. Nuvoton Japan's 2020-2022 data GWP values reference IPCC 2006 AR4 version, and 2023 data reference IPCC 2006 AR4/AR5 versions. Nuvoton Taiwan and Japan's 2023 Scope 1, 2, and 3 greenhouse gas data have all been certified by ISO 14064.

² The 2023 Nuvoton Taiwan Scope 2 electricity carbon emission factor is calculated based on the 2023 carbon emission factor (0.494 kg CO₂e/kWh) published by the Energy Administration of the Ministry of Economic Affairs.

³ Based on Nuvoton Taiwan's 2023 data, the sources of Scope 3 emissions include purchased products/services, capital goods, fuel and energy-related activities, upstream transportation and distribution, downstream transportation and distribution, employee business travel, employee commuting, investments, and the disposal and treatment of operational waste.

⁴ Based on Nuvoton Japan's 2023 data, the sources of Scope 3 emissions include purchased products/services, owned capital or products, fuel and energy-related activities, upstream transportation and distribution, operational waste generation, employee business travel, employee commuting, downstream transportation and distribution, and downstream leased assets.

⁵ 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.

Category	Item	Unit	2020 (Baseline Year)	2021	2022	2023
Energy ⁶	Purchased Electricity (Nuvoton Taiwan)	kWh	72,336,600	74,146,028	72,294,038	71,852,667
		GJ	260,412	266,926	260,259	258,670
	Purchased Electricity (Nuvoton Japan)	kWh	160,529,000	154,685,000	148,874,000	125,192,000
		GJ	577,904	556,866	535,946	450,691
	Total Purchased Electricity	kWh	232,865,600	228,831,028	221,168,038	197,044,667
		GJ	838,316	823,792	796,205	709,361
	Gasoline (Nuvoton Taiwan)	liters	1,192	1,140	805	1,073
		GJ	39	37	26	35
	Gasoline (Nuvoton Japan)	liters	300	300	300	407
		GJ	10	10	10	14
	Total Gasoline	liters	1,492	1,440	1,105	1,480
		GJ	49	47	36	49
	Heavy Oil (Nuvoton Japan)	liters	137,000	394,000	395,000	663,000
		GJ	4,474	12,867	12,900	21,666
	Diesel (Nuvoton Taiwan)	liters	4,800	N/A	N/A	4,200
		GJ	169	N/A	N/A	148
	LPG (Nuvoton Japan)	thousand cubic meters	2,561	2,211	1,962	1,468
		GJ	130,099	112,319	99,670	74,561
	Petroleum-based Hydrocarbon Gases (Nuvoton Japan)	thousand cubic meters	—	—	12	0
		GJ	—	—	540	0
Natural Gas (Nuvoton Taiwan)	thousand cubic meters	237	221	222	269	
	GJ	8,047	7,485	7,526	9,050	
Natural Gas (Nuvoton Japan)	thousand cubic meters	7,558	7,020	6,511	5,355	
	GJ	330,982	307,422	268,164	220,546	
Total Natural Gas	thousand cubic meters	7,795	7,241	6,733	5,624	
	GJ	339,029	314,907	275,690	229,596	
Renewable Energy Consumption (including wind, solar, biomass) (Nuvoton Taiwan)		GJ	—	—	—	447

⁶ According to the Energy Administration website, the energy product unit calorific value is as follows: Electricity: 860 (Kcal/kWh); Gasoline: 7,800 (Kcal/liter); Diesel: 8,400 (Kcal/liter)

Category	Item	Unit	2020 (Baseline Year)	2021	2022	2023
Energy	Total Internal Energy Consumption (Nuvoton Taiwan)	GJ	268,667	274,447	267,811	268,350
	Total Internal Energy Consumption (Nuvoton Japan)	GJ	1,043,479	989,484	916,690	767,478
	Total Internal Energy Consumption	GJ	1,312,146	1,263,931	1,184,501	1,035,828
	Total External Energy Consumption (Nuvoton Japan)⁸	GJ	—	—	—	1,979,474
	Energy Intensity (Nuvoton Taiwan)	GJ/million NT\$ ⁹	23.5	18.8	13.7	14.1
	Energy Intensity (Nuvoton Japan)	GJ/million NT\$ ⁹	52.2	45.5	39.9	35.4
	Energy Intensity (Nuvoton Taiwan)	GJ/square cm of wafer	0.0026	0.0025	0.0026	0.0032
	Energy Intensity (Nuvoton Taiwan)	GJ/layer of photomask	0.027	0.026	0.026	0.033
	Energy Intensity (Nuvoton Japan)¹⁰	GJ/layer of photomask	—	—	—	—
	Energy Intensity (Nuvoton Taiwan)	kWh/million NT\$	6,327	5,078	3,704	3,769
	Energy Intensity (Nuvoton Taiwan)	kWh/square cm of wafer	0.70	0.66	0.71	0.86
	Energy Intensity (Nuvoton Taiwan)	kWh/layer of photomask	7.31	7.02	7.11	8.93
	Water resources (Nuvoton Taiwan)	Energy Intensity (Nuvoton Japan)	kWh/million NT\$	8,032	7,113	6,475
Energy Intensity (Nuvoton Japan)¹¹		kWh/layer of photomask	—	—	—	—
Surface Water Usage		Million Liters	2	2	2	2
Groundwater Usage		Million Liters	0	0	0	0
Seawater (Freshwater) Usage		Million Liters	0	0	0	0
Produced Water Usage		Million Liters	0	0	0	0
Third-party Water Usage		Million Liters	407	395	412	400
Total Plant Water Usage (including recycling)		Million Liters	770	786	772	760
Total Plant Recycled and Reused Water Volume		Million Liters	513	532	518	505
Total Water Withdrawal		Million Liters	409	397	414	402
	Total Plant Water Recycling Rate	%	66.6%	67.7%	67.1%	66.4%

7 Gigajoule (GJ) = 10⁹ Joules (J); 1 Kilocalorie (Kcal) = 4,186.8 Joules (J)

8 Nuvoton Japan's 2023 statistics pertain to the final disposal of sold products in the downstream category.

9 Energy Intensity = Energy Calorific Value/Revenue (Since greenhouse gas emissions are based on emissions from the Taiwan region, revenue is calculated based on Taiwan/Japan regional revenue)

10 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.

11 Total Plant Water Recycling Rate (%) = (Total Plant Recycled and Reused Water Volume / Total Plant Water Usage) * 100%

Category	Item	Unit	2020 (Baseline Year)	2021	2022	2023
Water Resources (Nuvoton Japan)	Surface Water Usage	Million Liters	—	—	0	0
	Groundwater Usage	Million Liters	3,624	3,602	3,734	3,726
	Seawater (Freshwater) Usage	Million Liters	0	0	0	0
	Produced Water Usage	Million Liters	3,860	3,672	3,184	3,758
	Third-party Water Usage	Million Liters	0	0	0	0
	Total Plant Water Usage (including recycling)	Million Liters	3,922	3,698	3,211	3,788
	Total Plant Recycled and Reused Water Volume	Million Liters	2,318	1,854	1,519	1,521
	Total Water Withdrawal	Million Liters	7,484	7,274	6,919	7,484
	Total Plant Water Recycling Rate¹²	%	59.1%	50.2%	47.3%	40.2%

¹² Total Plant Water Recycling Rate (%) = (Total Plant Recycled and Reused Water Volume / Total Plant Water Usage) * 100%

Type of Waste	Item	Unit	Nuvoton Taiwan			Nuvoton Japan		
			2021	2022	2023	2021	2022	2023
General Industrial Waste	Total Recycled	tons	105	93	93	0	1,197.097	1,197.097
	Total Non-Recycled	tons	201	191	227	0	0.047	0.047
Hazardous Industrial Waste	Total Recycled	tons	542	503	387	0	102.017	0
	Total Non-Recycled	tons	23	26	20	0	0.059	0
Overall Waste Recycling Rate ¹³		%	74%	73%	66%	0	99.99%	99.996%
Total General Industrial Waste Recycled in 2023		tons	1,290.10					
Total General Industrial Waste Non-Recycled in 2023		tons	227.05					
Total Hazardous Industrial Waste Recycled in 2023		tons	387.00					
Total Hazardous Industrial Waste Non-Recycled in 2023		tons	20.00					

¹³ Overall Waste Recycling Rate (%) = (Total Recycled General and Hazardous Industrial Waste) / (Total Recycled General and Hazardous Industrial Waste + Total Non-Recycled General and Hazardous Industrial Waste) * 100%

Plant	Chemical Raw Materials	Unit	2020 (Baseline Year)	2021	2022	2023
Nuvoton Taiwan	Nitrogen Usage	Million cubic meters	605	603	601	602
	Reduction Compared to Baseline Year	%	-	0.3%	1%	0.5%
	Nitrogen Usage per Unit Product	m3/layer-wafer mask	0.61	0.57	0.59	0.75
	Reduction Compared to Baseline Year	%	-	7%	3%	-19%
	Sulfuric Acid Usage	tons	645	685	652	480
	Reduction Compared to Baseline Year	%	-	-6%	-1%	34%
	Sulfuric Acid Usage per Unit Product	Grams/layer-wafer mask	65	65	64	60
	Reduction Compared to Baseline Year	%	-	0%	2%	8%
Nuvoton Japan	Nitrogen Usage	Million cubic meters	16,701	15,816	18,527	11,598
	Reduction Compared to Baseline Year	%	-	5%	11%	31%
	Sulfuric Acid Usage	tons	1,061	1,375	437	473
	Reduction Compared to Baseline Year	%	-	30%	59%	55%

Appendix II: Social Data

Introduction

CH1
Sustainability
Communication

CH2
Green
Products

CH3
Excellence in
Governance

CH4
Environmental
Sustainability

CH5
Safe
Workplace

CH6
Social
Prosperity

Appendix

Category	Item	Nuvoton Taiwan		Nuvoton Japan		
Education and Training	Total Employee Average	Average Hours per Person (hours)*		26.82	13.55	
	Supervisor Average		Supervisors	Non-Supervisors	Supervisors	Non-Supervisors
		Female	35.69	25.75	2	19.78
		Male	34.37	25.91	6.14	14.44
		Average Hours	34.55	25.84	6.05	15.04
	Course Category Statistics		Total Number of Trainees	Total Training Hours	Total Number of Trainees	Total Training Hours
		Online	29,210	23,558.62	802	5,238
In-person		8,137	18,141.25	847	17,272	

* Average Training Hours per Person: Total Training Hours (Nuvoton Taiwan - 41,699.87 hours; Nuvoton Japan - 22,510 hours) / Total Number of Employees (Nuvoton Taiwan - 1,555 people; Nuvoton Japan - 1,661 people)

Category	Item	Nuvoton Taiwan	Nuvoton Japan
Social Participation	Social Participation Investment (NT\$)	1,140,133	64,449
	Number of Participants in Social Participation	1,217	120
	Hours Invested in Social Participation (hours)	2,560	299

Category	Item	Nuvoton Taiwan			Nuvoton Japan			
		2021	2022	2023	2021	2022	2023	
Occupational Health and Safety	Employees	Working Hours	2,881,840	3,027,248	2,978,152	3,650,508	3,369,946	3,208,673
		Number of Fatalities Caused by Occupational Injuries	0	0	0	0	0	0
		Occupational Injury Fatality Rate	0	0	0	0	0	0
		Number of Severe Occupational Injuries	0	0	0	0	0	0
		Severe Occupational Injury Rate	0	0	0	0	0	0
		Number of Recordable Occupational Injuries (Disabling Injuries)	5	2	2	0	0	0
		Recordable Occupational Injury Rate (Disabling Injury Frequency)	1.73	0.66	0.67	0	0	0
		Number of Recordable Occupational Injuries (Non-Disabling Injuries)	2	3	4	1	1	0
		Recordable Occupational Injury Rate (Non-Disabling Injury Frequency)	0.69	0.99	1.34	0.27	0.3	0
		Number of Lost Days Due to Recordable Injuries	24	7	2	0	0	0
Occupational Health and Safety	Non-Employees	Disabling Injury Severity Rate	8.32	2.31	0.67	0	0	0
		Occupational Disease Incidence Rate (ODR)	0	0	0	0	0	0
		Working Hours	18,280	17,416	17,416	246,048	311,288	304,560
		Number of Fatalities Caused by Occupational Injuries	0	0	0	0	0	0
		Occupational Injury Fatality Rate	0	0	0	0	0	0
		Number of Severe Occupational Injuries	0	0	0	0	0	0
		Severe Occupational Injury Rate	0	0	0	0	0	0
		Number of Recordable Occupational Injuries (Disabling Injuries)	0	0	0	0	0	0
		Recordable Occupational Injury Rate (Disabling Injury Frequency)	0	0	0	0	0	0
		Number of Recordable Occupational Injuries (Non-Disabling Injuries)	0	0	1	0	2	1
Recordable Occupational Injury Rate (Non-Disabling Injury Frequency)	0	0	5.74	0	6.42	3.28		
Number of Lost Days Due to Recordable Injuries	0	0	0	0	0	0		
Disabling Injury Severity Rate	0	0	0	0	0	0		
Occupational Disease Incidence Rate (ODR)	0	0	0	0	0	0		

- Occupational Injury Fatality Rate = Number of Fatalities Caused by Occupational Injuries / Working Hours × 1,000,000 (rounded down to three decimal places)
- Severe Occupational Injury Rate = Number of Severe Occupational Injuries / Working Hours × 1,000,000 (rounded down to three decimal places); Nuvoton Taiwan defines "severe" as injuries leading to death or injuries that make it impossible or difficult for workers to return to their pre-injury health state within six months. Nuvoton Japan defines "severe" as incidents resulting in worker fatalities or absenteeism (4 days or more), or incidents causing simultaneous death, injury, or illness to three or more workers, including non-stop accidents.
- Recordable Occupational Injury Rate (Disabling / Non-Disabling Injury Frequency) = Number of Recordable Occupational Injuries (Disabling / Non-Disabling Injuries) / Working Hours × 1,000,000; Nuvoton Taiwan defines "recordable" as disabling injuries reported to the Ministry of Labor as occupational accidents. Nuvoton Japan's definition of "recordable" includes minor accidents (medication), non-stop accidents (incidents without work stoppage), all of which must be reported annually to the Ministry of Health, Labour, and Welfare.
- Disabling Injury Severity Rate = Number of Lost Days Due to Disabling Injuries / Working Hours × 1,000,000 (rounded down to three decimal places)
- Occupational Disease Incidence Rate = Number of Occupational Disease Cases / Working Hours × 1,000,000 (rounded down to three decimal places)
- Non-Employee Working Hours: Calculated based on full-time workers directly supervised by Nuvoton.

Category	Item	Nuvoton Taiwan		Nuvoton Japan		
		Number of People	Percentage	Number of People	Percentage	
Age	18-30 years old	262	16.85%	153	9.21%	
	31-40 years old	453	29.13%	151	9.09%	
	41-50 years old	500	32.15%	558	33.59%	
	51 years old and above	340	21.86%	799	48.10%	
Gender	Female	649	41.74%	163	9.81%	
	Male	906	58.26%	1,498	90.19%	
Diverse Employment	Education	PhD	22	1.41%	23	1.38%
		Master's	629	40.45%	609	36.66%
		Bachelor's	551	35.43%	818	49.25%
		Associate Degree	120	7.72%	0	0.00%
		High School (and below)	233	14.98%	211	12.70%
Role	Role	Supervisory Staff - Female	24	13.7%	6	2.2%
		Supervisory Staff - Male	151	86.3%	269	97.8%
		Professional Staff - Female	288	28.5%	79	21.2%
		Professional Staff - Male	723	71.5%	294	78.8%
		Technical Staff - Female	337	91.3%	78	7.7%
		Technical Staff - Male	32	8.7%	935	92.3%

Parental Leave Status in 2021	Nuvoton Taiwan			Nuvoton Japan		
	Male	Female	Total	Male	Female	Total
A. Number of Employees Eligible for Parental Leave in 2021*	92	69	161	114	13	127
B. Number of Employees Who Applied for Parental Leave in 2021	0	7	7	0	3	3
Application Rate (%) = B/A	0.00%	10.14%	4.35%	0.00%	23.08%	2.36%
C. Number of Employees Expected to Return from Parental Leave in 2021	1	8	9	1	4	5
D. Number of Employees Who Actually Returned from Parental Leave in 2021	0	6	6	1	4	5
Return Rate (%) = D/C	0.00%	75%	66.67%	100.00%	100.00%	100.00%
E. Number of Employees Who Actually Returned from Parental Leave in 2020	0	7	7	2	3	5
F. Number of Employees Who Continued Working for One Year After Returning from Parental Leave in 2020	0	5	5	2	3	5
Retention Rate (%) = F/E	N/A	71.43%	71.43%	100.00%	100.00%	100.00%

※ 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.

Parental Leave Status in 2021	Nuvoton Taiwan			Nuvoton Japan		
	Male	Female	Total	Male	Female	Total
A. Number of Employees Eligible for Parental Leave in 2022	94	63	157	124	14	138
B. Number of Employees Who Applied for Parental Leave in 2022	1	7	8	2	2	4
Application Rate (%) = B/A	1.06%	11.11%	5.10%	1.61%	14.29%	2.90%
C. Number of Employees Expected to Return from Parental Leave in 2022	1	9	10	2	2	4
D. Number of Employees Who Actually Returned from Parental Leave in 2022	1	7	8	2	2	4
Return Rate (%) = D/C	100.00%	77.78%	80%	100.00%	100.00%	100.00%
E. Number of Employees Who Actually Returned from Parental Leave in 2021	0	6	6	1	4	5
F. Number of Employees Who Continued Working for One Year After Returning from Parental Leave in 2021	0	5	5	1	4	5
Retention Rate (%) = F/E	N/A	83.33%	83.33%	100.00%	100.00%	100.00%

Parental Leave Status in 2021	Nuvoton Taiwan			Nuvoton Japan		
	Male	Female	Total	Male	Female	Total
A. Number of Employees Eligible for Parental Leave in 2023	97	53	150	136	16	152
B. Number of Employees Who Applied for Parental Leave in 2023	1	10	11	7	0	7
Application Rate (%) = B/A	1.03%	18.87%	7.33%	5.15%	0.00%	4.61%
C. Number of Employees Expected to Return from Parental Leave in 2023	0	8	8	4	1	5
D. Number of Employees Who Actually Returned from Parental Leave in 2023	0	7	7	4	1	5
Return Rate (%) = D/C	0.00%	87.50%	87.50%	100.00%	100.00%	100.00%
E. Number of Employees Who Actually Returned from Parental Leave in 2022	1	7	8	2	2	4
F. Number of Employees Who Continued Working for One Year After Returning from Parental Leave in 2022	1	6	7	2	2	4
Retention Rate (%) = F/E	100.00%	85.71%	87.50%	100.00%	100.00%	100.00%

Appendix III, Index of GRI (Global Reporting Initiative)

Introduction

CH1
Sustainability
Communication

CH2
Green
Products

CH3
Excellence in
Governance

CH4
Environmental
Sustainability

CH5
Safe
Workplace

CH6
Social
Prosperity

Appendix

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 2023 (January 1, 2023, to December 31, 2023).
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

GRI Standard	Number	GRI Standard Disclosure Content	Corresponding Section	Page Number	Omission/Notes
1. Organization and Reporting Practices					
GRI 2: General Disclosures 2021	2-1	Organizational Details	1.1 Company Profile	11	
	2-2	Entities Included in the Organization's Sustainability Reporting	About This Report	03	
	2-3	Reporting Period, Frequency, and Contact Point	About This Report	03	
	2-4	Restatements of Information	-		No restatements of information
	2-5	External Assurance/Verification	About This Report	03	
2. Activities and Workers					
GRI 2: General Disclosures 2021	2-6	Activities, Value Chain, and Other Business Relationships	1.1 Company Profile	11	
			3.4.1 Supply Chain Composition and Overview	67	
	2-7	Employees	5.1 Talent Overview	107	
	2-8	Workers Who Are Not Employees	5.3.1 Workplace Safety	122	
3. Governance					
GRI 2: General Disclosures 2021	2-9	Governance Structure and Composition	3.1.1 Board of Directors	48	
	2-10	Nomination and Selection of the Highest Governance Body	3.1.1 Board of Directors	48	
	2-11	Chair of the Highest Governance Body	3.1.1 Board of Directors	48	
	2-12	Role of the Highest Governance Body in Overseeing the Management of Impacts	1.4 Material Topic Analysis and Stakeholder Communication	17	
			3.1.1 Board of Directors	48	
	2-13	Delegation of Responsibility for Managing Impacts	1.3 Sustainability Governance	14	
	2-14	Role of the Highest Governance Body in Sustainability Reporting	About This Report	03	
1.4 Material Topic Analysis and Stakeholder Communication			17		

GRI Standard	Number	GRI Standard Disclosure Content	Corresponding Section	Page Number	Omission/Notes
GRI 2: General Disclosures 2021	2-15	Conflicts of Interest	3.1.1 Board of Directors	48	
	2-16	Communication of Critical Concerns	3.1.1 Board of Directors	48	
	2-17	Collective Knowledge of the Highest Governance Body	3.1.1 Board of Directors	48	
	2-18	Evaluation of the Performance of the Highest Governance Body	3.1.1 Board of Directors	48	
	2-19	Remuneration Policies	3.1.1 Board of Directors	48	
	2-20	Process to Determine Remuneration	3.1.2 Functional Committees	52	
	2-21	Annual Total Compensation Ratio	-	-	2023, the median total compensation of Nuvoton Taiwan employees was approximately 15.3 times lower than the highest paid employee, a decrease of about 1.4 times compared to 2022.
4. Strategy, Policies, and Practices					
GRI 2: General Disclosures 2021	2-22	Statement on Sustainable Development Strategy	Message from the Management	04	
	2-23	Policy Commitments	3.4.2 Sustainable Supply Chain Management	70	
			5.1 Talent Overview	107	
	2-24	Embedding Policy Commitments	3.4.2 Sustainable Supply Chain Management	70	
			5.1 Talent Overview	104	
	2-25	Processes to Remediate Negative Impacts	3.3.1 Regulatory Compliance and Integrity Management	56	
	2-26	Mechanisms for Seeking Advice and Raising Concerns	3.3.1 Regulatory Compliance and Integrity Management	56	
2-27	Compliance with Laws and Regulations	3.3.1 Regulatory Compliance and Integrity Management	56		
2-28	Membership of Associations	1.1 Company Profile	11		
5. Stakeholder Engagement					
GRI 2: General Disclosures 2021	2-29	Approach to Stakeholder Engagement	1.4 Material Topic Analysis and Stakeholder Communication	17	
	2-30	Collective Agreements	5.4 Employee Care and Communication	137	

GRI 3: Material Topics 2021

	GRI Standard	Number	GRI Standard Disclosure Content	Corresponding Section	Page Number	Omission/Notes
Introduction	GRI 3: Material Topics 2021	3-1	Process to Determine Material Topics	1.4 Material Topic Analysis and Stakeholder Communication	17	
		3-2	List of Material Topics	1.4 Material Topic Analysis and Stakeholder Communication	17	
Material Topic: Information Security and Privacy Protection						
CH1 Sustainability Communication	GRI 3: Material Topics 2021	3-3	Management of Material Topics	1.4 Material Topic Analysis and Stakeholder Communication 3 Excellence in Governance	17 44	
		Custom Topic	-	-		
Material Topic: Corporate Governance and Integrity Management						
CH2 Green Products	GRI 3: Material Topics 2021	3-3	Management of Material Topics	1.4 Material Topic Analysis and Stakeholder Communication 3 Excellence in Governance	17 44	
		205-1	Operations Assessed for Risks Related to Corruption	3.3.1 Regulatory Compliance and Integrity Management	56	
	GRI 205: Anti-Corruption	205-2	Communication and Training About Anti-Corruption Policies and Procedures	3.3.1 Regulatory Compliance and Integrity Management	56	
205-3		Confirmed Incidents of Corruption and Actions Taken	-	-	-	No incidents of corruption occurred
CH3 Excellence in Governance	GRI 206: Anti-Competitive Behavior	206-1	Legal Actions for Anti-Competitive Behavior, Anti-Trust, and Monopoly Practices	3.3.1 Regulatory Compliance and Integrity Management	56	
		Material Topic: Supplier Sustainability Management				
CH4 Environmental Sustainability	GRI 3: Material Topics 2021	3-3	Management of Material Topics	1.4 Material Topic Analysis and Stakeholder Communication 3 Excellence in Governance	17 44	
		GRI 204: Procurement Practices	204-1	Proportion of Spending on Local Suppliers	3.4.1 Supply Chain Composition and Overview	67
CH5 Safe Workplace	GRI 308: Supplier Environmental Assessment	308-1	New Suppliers That Were Screened Using Environmental Criteria	3.4.2 Sustainable Supply Chain Management	70	
		308-2	Negative Environmental Impacts in the Supply Chain and Actions Taken	3.4.2 Sustainable Supply Chain Management	70	
	Supplier Social Assessment	414-1	New Suppliers That Were Screened Using Social Criteria	3.4.2 Sustainable Supply Chain Management	70	
		414-2	Negative Social Impacts in the Supply Chain and Actions Taken	3.4.2 Sustainable Supply Chain Management	70	
Material Topic: Business Strategy and Performance						
CH6 Social Prosperity	GRI 3: Material Topics 2021	3-3	Management of Material Topics	1.4 Material Topic Analysis and Stakeholder Communication 3 Excellence in Governance	17 44	
		GRI 201: Economic Performance	201-1	Direct Economic Value Generated and Distributed	3.2.1 Economic Performance	53
	201-3		Defined Benefit Plan Obligations and Other Retirement Plans	5.4 Employee Care and Communication	137	

Introduction

CH1
Sustainability
Communication

CH2
Green
Products

CH3
Excellence in
Governance

CH4
Environmental
Sustainability

CH5
Safe
Workplace

CH6
Social
Prosperity

Appendix

GRI Standard	Number	GRI Standard Disclosure Content	Corresponding Section	Page Number	Omission/Notes		
Material Topic: Innovation and R&D Management							
GRI 3: Material Topics 2021	3-3	Management of Material Topics	1.4 Material Topic Analysis and Stakeholder Communication	17			
			2 Green Products	29			
Custom Topic	-	-	-				
Material Topic: Energy Resource Use and Consumption							
GRI 3: Material Topics 2021	3-3	Management of Material Topics	1.4 Material Topic Analysis and Stakeholder Communication	17			
			4 Environmental Sustainability	76			
GRI 302: Energy	302-1	Energy Consumption Within the Organization	4.3.1 Energy Management	93			
			Appendix I Environmental Data	145			
			302-2	Energy Consumption Outside of the Organization	No related statistics yet; future assessments will consider implementation	-	
			302-3	Energy Intensity	Appendix I Environmental Data	145	
			302-4	Reduction of Energy Consumption	4.3.1 Energy Management Appendix I Environmental Data	93 145	
	302-5	Reductions in Energy Requirements of Products and Services	-	-	In 2023, a target was set for the total reduction of the carbon footprint in green product production. In 2024, statistics on product energy-saving data will be conducted.		
Material Topic: Greenhouse Gas Emissions							
GRI 3: Material Topics 2021	3-3	Management of Material Topics	1.4 Material Topic Analysis and Stakeholder Communication	17			
			4 Environmental Sustainability	76			
GRI 305: Emissions	305-1	Direct (Scope 1) GHG Emissions	Appendix I Environmental Data	145			
			305-2	Energy Indirect (Scope 2) GHG Emissions	Appendix I Environmental Data	145	
			305-3	Other Indirect (Scope 3) GHG Emissions	4.2 GHG Management Appendix I Environmental Data	91 145	
			305-4	GHG Emissions Intensity	Appendix I Environmental Data	145	
			305-5	Reduction of GHG Emissions	4.2 GHG Management	91	
Material Topic: Climate Change							
GRI 3: Material Topics 2021	3-3	Management of Material Topics	1.4 Material Topic Analysis and Stakeholder Communication 4.1 Climate Change	17 81			
Custom Topic	-	-	-				

Introduction

CH1
Sustainability
Communication

CH2
Green
Products

CH3
Excellence in
Governance

CH4
Environmental
Sustainability

CH5
Safe
Workplace

CH6
Social
Prosperity

Appendix

GRI Standard	Number	GRI Standard Disclosure Content	Corresponding Section	Page Number	Omission/Notes
Material Topic: Occupational Health and Safety					
Occupational Health and Safety	GRI 3: Material Topics 2021	3-3 Management of Material Topics	1.4 Material Topic Analysis and Stakeholder Communication 5 Safe Workplace	17 103	
	403-1	Occupational Health and Safety Management System	5.3.1 Workplace Safety	122	
	403-2	Hazard Identification, Risk Assessment, and Incident Investigation	5.3.1 Workplace Safety	122	
	403-3	Occupational Health Services	5.3.2 Workplace Health	132	
	403-4	Worker Participation, Consultation, and Communication on Occupational Health and Safety	5.3.1 Workplace Safety	122	
	403-5	Worker Training on Occupational Health and Safety	5.3.1 Workplace Safety	122	
	403-6	Promotion of Worker Health	5.3.2 Workplace Health	132	
	403-7	Prevention and Mitigation of Occupational Health and Safety Impacts Directly Linked by Business Relationships	5.3.1 Workplace Safety	122	
	403-8	Workers Covered by an Occupational Health and Safety Management System	5.3.1 Workplace Safety	122	
	403-9	Work-Related Injuries	5.3.2 Workplace Health	132	
403-10	Work-Related Ill Health	5.3.2 Workplace Health	132		
Material Topic: Talent Valuation and Development					
GRI 401: Employment	GRI 3: Material Topics 2021	3-3 Management of Material Topics	1.4 Material Topic Analysis and Stakeholder Communication 5 Safe Workplace	17 103	
	401-1	New Employee Hires and Employee Turnover	5.2.1 Talent Recruitment and Retention	111	
	401-2	Benefits Provided to Full-Time Employees That Are Not Provided to Temporary or Part-Time Employees	5.2.3 Compensation and Benefits	132	
GRI 404: Training and Education	401-3	Parental Leave	5.2.3 Compensation and Benefits	132	
	404-1	Average Hours of Training Per Year Per Employee	5.2.2 Talent Development	115	
	404-2	Programs for Upgrading Employee Skills and Transition Assistance Programs	5.2.2 Talent Development 5.4 Employee Care and Communication	115 137	
	404-3	Percentage of Employees Receiving Regular Performance and Career Development Reviews	5.2.3 Compensation and Benefits	118	

Appendix IV, Sustainability Accounting Standards (SASB) Index

Semiconductors Industry

Indicator category	SASB Topic	Code	Metric	Category	Response Chapter	Section	
accounting indicators	Greenhouse Gas Emissions	TC-SC-110a.1	Gross global Scope 1 emissions	Quantitative	4.2 Greenhouse Gas Management Appendix I: Environmental Data	91	
			Total emissions from perfluorinated compounds			145	
	Greenhouse Gas Emissions	TC-SC-110a.2	Discussion of long-term 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	91
			Energy Management in Manufacturing	TC-SC-130a.1			Total energy consumed
	Percentage grid electricity Percentage renewable	145					
	Water Management	TC-SC-140a.1	Total water withdrawn, total water consumed, and percentage of each in regions with high or extremely high baseline water stress		Quantitative	4.3.2 Water Resource Management Appendix I: Environmental Data	95
			145				
	Waste Management	TC-SC-150a.1	Amount of hazardous waste from manufacturing, percentage recycled		Quantitative	4.3.3 Circular Economy	97
			Employee health and safety	TC-SC-320a.1			Description of efforts to assess, monitor and reduce exposure of employees to human health hazards
	Employee health and safety	TC-SC-320a.2			Total amount of monetary losses as a result of legal proceedings associated with employee health and safety violations		Quantitative
			Recruiting and managing a global and skilled workforce	TC-SC-330a.1	Percentage of employees that are (1) foreign nationals and (2) located offshore		
	Product lifecycle management	TC-SC-410a.1			Percentage of products by revenue that contain IEC 62474-declarable substances		Quantitative
			Product lifecycle management	TC-SC-410a.2	Processor energy efficiency at a system level for: (1) servers, (2) desktops, and (3) laptops		
	Materials sourcing	TC-SC-440a.1			Description of the management of risks associated with the use of critical materials		Discussion and Analysis
			Intellectual property protection & competitive behavior	TC-SC-520a.1	Total amount of monetary losses as a result of legal proceedings associated with anticompetitive behavior regulations		

Indicator category	SASB Topic	Code	Metric	Category	Response Chapter	Section																									
Activity Metrics		TC-SC-000.A	Total production	Quantitative	Please refer to the 2023 Annual Report Note: Production capacity is represented by self-produced 6-inch wafers. Building C at the Uozu site in Japan was closed in March 2023.																										
					<table border="1"> <thead> <tr> <th rowspan="3">Main product categories\ year</th> <th colspan="3">2023 year</th> <th rowspan="3">output value (NT\$ thousand)</th> </tr> <tr> <th rowspan="2">Capacity (Thousands of films)</th> <th colspan="2">Yield</th> </tr> <tr> <th>Wafer (Thousands of films)</th> <th>grain (Thousands)</th> </tr> </thead> <tbody> <tr> <td>General IC</td> <td></td> <td>-</td> <td>3,383,711</td> <td>30,904,624</td> </tr> <tr> <td>Wafer Foundry</td> <td>536</td> <td>405</td> <td>58</td> <td>1,382,992</td> </tr> <tr> <td>other</td> <td></td> <td>-</td> <td>-</td> <td>16,190</td> </tr> <tr> <td>total</td> <td></td> <td>405</td> <td>3,383,769</td> <td>32,303,806</td> </tr> </tbody> </table>		Main product categories\ year	2023 year			output value (NT\$ thousand)	Capacity (Thousands of films)	Yield		Wafer (Thousands of films)	grain (Thousands)	General IC		-	3,383,711	30,904,624	Wafer Foundry	536	405	58	1,382,992	other		-	-	16,190
Main product categories\ year	2023 year			output value (NT\$ thousand)																											
	Capacity (Thousands of films)	Yield																													
		Wafer (Thousands of films)	grain (Thousands)																												
General IC		-	3,383,711	30,904,624																											
Wafer Foundry	536	405	58	1,382,992																											
other		-	-	16,190																											
total		405	3,383,769	32,303,806																											
		TC-SC-000. B	Percentage of production from owned facilities	Quantitative	Wafer 0% \ Grain 100%																										

Appendix V, Sustainability Disclosure Indicators - Semiconductor Industry

Introduction

CH1
Sustainability
Communication

CH2
Green
Products

CH3
Excellence in
Governance

CH4
Environmental
Sustainability

CH5
Safe
Workplace

CH6
Social
Prosperity

Appendix

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 \ Appendix I: Environmental Data
Total water withdrawal and total water consumption	Quantitative	(m ³) thousand cubic meter (m ³)	4.3.2 Water Resources Management \ Appendix I: Environmental Data
Weight of hazardous waste generated and percentage of hazardous waste recycled	Quantitative	Metric ton (t); percentage (%)	4.3.3 Circular Economy
Category, number and rate of individuals subject to occupational accidents	Quantitative	Rate (%); number	5.3.1 Workplace Safety
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 description	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 Technology 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 2023
Production of major products by product line by product category	Quantitative	Varied by product type	Please refer to the 2023 Annual Report

Appendix VI: TWSE/TPEX-Listed Companies Climate-related Information

Implementation of Climate-Related Information

Introduction

CH1
Sustainability
Communication

CH2
Green
Products

CH3
Excellence in
Governance

CH4
Environmental
Sustainability

CH5
Safe
Workplace

CH6
Social
Prosperity

Appendix

Item	Execution/Corresponding Chapter
Describe the board of directors' and management's oversight and governance of climate-related risks and opportunities.	
Describe how the identified climate risks and opportunities affect the business, strategy, and finances of the business (short, medium, 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.	Please refer to pages 49-54 of the 2023 Nuvoton Technology Annual Report
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 (separately fill out in points 1-1 and 1-2 below).	CH 4 Environmental Sustainability \ the tables below

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 NTD, 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 15 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:

		2022		2023	
		Emissions (tons CO ₂ e)	Intensity (tons CO ₂ e per million NTD revenue)	Emissions (tons CO ₂ e)	Intensity (tons CO ₂ e per million NTD revenue)
Headquarters	Scope 1 Direct Greenhouse Gas Emissions	36,326.2384		18,748.5463	
	Scope 2 Indirect Greenhouse Gas Emissions	35,785.5489		35,495.2174	
	Subtotal	72,111.7873		54,243.764	
All Subsidiaries in Consolidated Financial Statements	Scope 1 Direct Greenhouse Gas Emissions	28,713		21,045.3824	
	Scope 2 Indirect Greenhouse Gas Emissions	73,034.5128		62,855.1426	
	Subtotal	101,747.513		83,900.525	
Total		173,859.3003	4.15	138,144.289	3.91

Introduction

CH1
Sustainability
Communication

CH2
Green
Products

CH3
Excellence in
Governance

CH4
Environmental
Sustainability

CH5
Safe
Workplace

CH6
Social
Prosperity

Appendix

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 Execution	2022 Emissions	2023 Emissions (tons CO ₂ e)
	(tons CO ₂ e)	(tons CO ₂ e)
The Company	Scope 1 Direct Greenhouse Gas Emissions	18,748.5463
	Scope 2 Indirect Greenhouse Gas Emissions	35,495.2174
	Subtotal	54,243.764
	Percentage of the inventory data disclosed in 1-1-1	100%
All Subsidiaries in Consolidated Financial Statements	Scope 1 Direct Greenhouse Gas Emissions	21,045.2824
	Scope 2 Indirect Greenhouse Gas Emissions	62,855.1426
	Subtotal	83,900.425
	Percentage of the inventory data disclosed in 1-1-1	0% ²
Assurance Organizations	DNV GL (DNV Taiwan)	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), while subsidiaries other than Nuvoton Japan are jointly verified by DNV GL and Nuvoton Taiwan.

² In 2022, the greenhouse gas data for all subsidiaries in the consolidated financial statements were only inventoried and not yet assured.

Introduction

CH1
Sustainability
Communication

CH2
Green
Products

CH3
Excellence in
Governance

CH4
Environmental
Sustainability

CH5
Safe
Workplace

CH6
Social
Prosperity

Appendix

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 2020¹)

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 short-term (2024), medium-term (2025), and long-term (2030) greenhouse gas reduction goals:

Short and Medium Term:

- Scope 1: Continue to install fluorinated gas treatment equipment in processes to reduce fluorinated gas emissions and direct energy consumption, with the goal of reducing by 70% by 2025 and 75% by 2030.
- 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 35% by 2025 and 40% by 2030.
- Scope 3: The total reduction of the above two items is 50% by 2025 and 55% by 2030.

Long Term: Achieve net-zero emissions by 2050.

The estimated total emissions of Nuvoton's Scope 1 and Scope 2 greenhouse gases for 2025 and 2030 are 117,068 t CO₂e and 109,624 t CO₂e, respectively.

Greenhouse Gas Reduction Strategies and Specific Action Plans

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.

In 2023, 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 8% of the contract capacity (producing 880,000 kWh annually). In 2023, three fluorinated gas reduction equipment units were installed and operational in the process, with plans to install more equipment (chillers, reduction equipment, energy-saving equipment, etc.) 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.

In terms of specific actions, they include:

Nuvoton Technology has set the long-term goal of achieving net-zero emissions by 2050, actively responding to the global net-zero emission trend. 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. For Scope 1 and 2, Nuvoton Technology 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.

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.

¹ The baseline year 2020 greenhouse gas emissions were back-calculated using the United Nations IPCC 2019 edition and AR5 coefficients.

² These reductions were all calculated using the United Nations IPCC 2019 edition and AR5 coefficients.

Appendix VII, Third-Party Verification Statement

Introduction

CH1
Sustainability
Communication


CH2
Green
Products

CH3
Excellence in
Governance

CH4
Environmental
Sustainability

CH5
Safe
Workplace

CH6
Social
Prosperity



ASSURANCE STATEMENT

SGS TAIWAN LTD.'S REPORT ON SUSTAINABILITY ACTIVITIES IN THE NUVOTON TECHNOLOGY CORPORATION'S ESG REPORT FOR 2023

NATURE AND SCOPE OF THE ASSURANCE
 SGS Taiwan Ltd. (hereinafter referred to as SGS) was commissioned by Nuvoton Technology Corporation (hereinafter referred to as Nuvoton) to conduct an independent assurance of the ESG Report for 2023 (hereinafter referred to as the ESG Report). The scope of assurance is based on the SGS Sustainability Report Assurance methodology and AA1000 Assurance Standard v3 Type 1 Moderate level to assess whether the text and data in accompanying tables contained in the report presented and complies with the GRI Standards and AA1000 Accountability Principles (2018) during assurance (2024/3/8–2024/4/11) in Nuvoton's headquarter. The assurance process did not include the evaluation of specific performance information outside the scope, such as climate-related financial disclosures (TCFD) and sustainability accounting standards (SASB).

SGS reserves the right to update the assurance statement from time to time depending on the level of report content discrepancy of the published version from the agreed standards requirements.

INTENDED USERS OF THIS ASSURANCE STATEMENT
 This Assurance Statement is provided with the intention of informing all Nuvoton's Stakeholders.

RESPONSIBILITIES
 The information in the Nuvoton's ESG Report of 2023 and its presentation are the responsibility of the directors or governing body (as applicable) and management of Nuvoton. SGS has not been involved in the preparation of any of the material included in the ESG Report.

Our responsibility is to express an opinion on the report content within the scope of assurance with the intention to inform all Nuvoton's stakeholders.

ASSURANCE STANDARDS, TYPE AND LEVEL OF ASSURANCE
 The SGS ESG & Sustainability Report Assurance protocols used to conduct assurance are based upon internationally recognized assurance guidance and standards including the principles of reporting process contained within the Global Reporting Initiative Sustainability Reporting Standards (GRI Standards) GRI 1: Foundation 2021 for report quality, GRI 2 (General Disclosure 2021 for organization's reporting practices and other organizational detail, GRI 3 2021 for organization's process of determining material topics, its list of material topics and how to manages each topic, and the guidance on levels of assurance contained within the AA1000 series of standards.

The assurance of this report has been conducted according to the following Assurance Standards:

Assurance Standard Options	Level of Assurance	
A	SGS ESG & SRA Assurance Protocols (based on GRI Principles and guidance in AA1000)	n/a
B	AA1000ASv3 Type 1 (AA1000AP Evaluation only)	Moderate

TWPP5008 Issue 2404
© 2018 SGS

SCOPE OF ASSURANCE AND REPORTING CRITERIA
 The scope of the assurance included evaluation of adherence to the following reporting criteria:

Reporting Criteria Options	
1	GRI Standards (in Accordance with)
2	AA1000 Accountability Principles (2018)

- AA1000 Assurance Standard v3 Type 1 evaluation of the report content and supporting management systems against the AA1000 Accountability Principles (2018) is conducted at a moderate level of scrutiny, and therefore the reliability and quality of specified sustainability performance information is excluded.
- The evaluation of the report against the requirements of GRI Standards, includes GRI 1, GRI 2, GRI 3, 200, 300 and 400 series claimed in the GRI content index as material and is conducted in accordance with the standards.

ASSURANCE METHODOLOGY
 The assurance comprised a combination of pre-assurance research, interviews with relevant employees, superintendents, ESG committee members and the senior management in Taiwan; documentation and record review and validation with external bodies and/or stakeholders where relevant.

LIMITATIONS AND MITIGATION
 Financial data drawn directly from independently audited financial accounts, Total Impact Measurement and Management, and Task Force on Climate-related Financial Disclosures (TCFD) and SASB related disclosures has not been checked back to source as part of this assurance process.

STATEMENT OF INDEPENDENCE AND COMPETENCE
 The SGS Group of companies is the world leader in inspection, testing and assurance, operating in more than 140 countries and providing services including management systems and service certification; quality, environmental, social and ethical auditing and training; environmental, social and sustainability report assurance. SGS affirm our independence from Nuvoton, being free from bias and conflicts of interest with the organization, its subsidiaries and stakeholders.

The assurance team was assembled based on their knowledge, experience and qualifications for this assignment, and comprised auditors registered with ISO 26000, ISO 20121, ISO 50001, SA8000, RBA, QMS, EMS, SMS, GPMS, CFP, WFP, GHG Verification and GHG Validation Lead Auditors and experience on the SRA Assurance service provisions.

ASSURANCE / VERIFICATION OPINION
 On the basis of the methodology described and the assurance work performed, we are satisfied that the disclosure with inclusivity, materiality, responsiveness, and impact information in the scope of assurance is reliable, has been fairly stated and has been prepared, in all material respects, in accordance with the reporting criteria. We believe that the organization has chosen an appropriate level of assurance for this stage in their reporting.

TWPP5008 Issue 2404
© 2018 SGS

ADHERENCE TO AA1000 ACCOUNTABILITY PRINCIPLES (2018)

INCLUSIVITY
 Nuvoton has demonstrated a good commitment to stakeholder inclusivity and stakeholder engagement. A variety of engagement efforts such as survey and communication to employees, customers, investors, suppliers, sustainability experts, and other stakeholders are implemented to underpin the organization's understanding of stakeholder concerns. For future reporting, Nuvoton may proactively consider having more direct two-ways involvement of stakeholders during future engagement.

MATERIALITY
 Nuvoton has established effective processes for determining issues that are material to the business. Formal review has identified stakeholders and those issues that are material to each group and the report addresses these at an appropriate level to reflect their importance and priority to these stakeholders.

RESPONSIVENESS
 The report includes coverage given to stakeholder engagement and channels for stakeholder feedback.

IMPACT
 Nuvoton has demonstrated a process on identify and fairly represented impacts that encompass a range of environmental, social and governance topics from wide range of sources, such as activities, policies, programs, decisions and products and services, as well as any related performance. Measurement and evaluation of its impacts related to material topic were in place at target setting with combination of qualitative and quantitative measurements.

GLOBAL REPORTING INITIATIVE REPORTING STANDARDS CONCLUSIONS, FINDINGS AND RECOMMENDATIONS
 The report, Nuvoton's ESG Report of 2023, is adequately in accordance with the GRI Universal Standards 2021 and complies with the requirements set out in section 3 of GRI 1 Foundation 2021, where the significant impacts on the economy, environment, and people, including impacts on their human rights are assessed and disclosed following the guidance defined in GRI 3: Material Topic 2021, and the relevant 200/300/400 series Topic Standard related to Material Topic have been disclosed. The report has properly disclosed information related to Nuvoton's contributions to sustainability development. For future reporting, it is recommended to have more descriptions on how the organization has applied due diligence as a method for the identification and the evaluation of its impacts on the economy, environment, and people, including impacts on their human rights as well as the role of the highest governance body in overseeing these processes. In addition, more systematic processes are encouraged for data collection and performance disclosure.

Signed:
 For and on behalf of SGS Taiwan Ltd.




Stephen Pao
 Business Assurance Director
 Taipei, Taiwan
 11 May, 2024
www.sgs.com

TWPP5008 Issue 2404
© 2018 SGS