APPENDIX

Environmental Data

A. Waste, Water, Energy, GHG & Air emission[1]

Category	Environmental Performance Index	Unit	2020	2021	3022	2023	2024
Waste	Total general and hazardous waste	ton	75,814	82,158	75,391	68,657	76,857
	General waste production	ton	45,139	52,618	49,972	47,965	54,359
	Recycled and reused (without energy recovery)	ton	33,813	41,696	39,245	38,321	43,643
	Landfilled	ton	1,872	1,976	1,368	1,114	1,039
	Incinerated with energy recovery	ton	8,442	8,160	8,810	8,275	8,257
	Incinerated without energy recovery	ton	1,012	786	549	255	328
	Hazardous waste production	ton	30,675	29,540	25,419	20,692	22,497
	Recycled and reused (without energy recovery)	ton	13,048	14,064	12,963	11,199	11,580
	Landfilled	ton	870	1,326	0	0	0
	Incinerated with energy recovery	ton	6,740	5,171	5,563	4,897	6,560
	Incinerated without energy recovery	ton	7,201	7,262	1,864	819	695
	Others	ton	2,816	1,717	5,029	3,777	3,662
	Total recycled and reused	ton	62,043	69,091	66,581	62,692	71,132
	Total non-recycled and reused	ton	13,771	13,067	8,810	5,965	5,725
	Total recycled and reused rate	%	82	84	88	91	93
Water	Water withdrawal	m^3	24,961,039	25,872,192	23,398,956	21,467,999	21,886,295
	Water withdrawal intensity	m^3/ thousand USD revenue	1.468	1.262	1.072	1.130	1.21
	Ultra-pure water usage	m^3	26,304,664	28,660,692	28,571,562	28,923,983	30,060,603
	Water recycled and reuse	m^3	34,437,950	37,817,390	40,121,082	39,474,668	40,605,594
	Process water recycle rate	%	72	72	76	78	80
	Wastewater discharge	m^3	19,454,037	19,569,329	17,461,146	15,386,252	15,871,374
	Water consumption	m^3	5,507,002	6,302,863	5,937,810	6,081,747	6,014,921
	Total fresh water consumption	Million m^3	24.71	24.45	23.17	20.93	21.72

[1] The data from 2022 to 2023 does not include the facilities sold in 2022

Category	Environmental Performance Index	Unit	2020	2021	3022	2023	2024
Energy	Electricity consumption	MWh	3,900,915	4,285,155	4,233,363	4,211,006	4,294,177
	Renewable electricity	MWh	706,105	1,030,137	819,863	844,044	824,401
	Non-renewable electricity	MWh	3,194,810	3,255,018	3,413,500	3,366,962	3,469,776
	Electricity intensity	MWh/ thousand USD revenue	0.230	0.209	0.194	0.222	0.236
	Total Renewable energy consumption	MWh	706,105	1,030,137	819,863	844,044	824,401
	Liquefied Petroleum Gas (LPG)	GJ	16,770	2,273	3,253	3,340	4,123
	Liquefied Natural Gas (LNG)	GJ	324,214	332,561	333,904	335,803	354,105
	Motor gasoline	GJ	6,593	5,972	4,863	5,570	5,912
	Diesel	GJ	73,337	27,231	26,586	25,925	35,058
	Heavy oil	GJ	32,534	34,703	37,917	43,460	43,942
	Total non-renewable energy consumption	MWh	3,352,289	3,416,482	3,571,744	3,536,828	3,636,293
Green House Gas (GHG)	SCOPE 1	tCO_2e	93,996	90,591	90,993	75,274	72,269
	SCOPE 2 (Market-based)	tCO_2e	1,658,606	1,612,050	1,671,242	1,649,347	1,733,310
	SCOPE 1 + SCOPE 2 (Market-based)	tCO_2e	1,752,602	1,702,641	1,762,235	1,724,621	1,805,579
	GHG intensity (Market-based)	tCO_2e / thousand USD revenue	0.103	0.083	0.081	0.091	0.099
	SCOPE 3	tCO_2e	19,804,255	15,639,991	13,350,245	9,891,845	18,067,529[1]
	PFC emissions / number package output	tCO_2e/kPCs	0.00077	0.00062	0.00091	0.00073	0.00042
Air Emission	VOC (Volatile organic compounds)	ton	219	262	291	239	93

[1] In a recently published report on "Scope 3 Category 11 GHG Emissions: A Sectoral Assessment for the Semiconductor Industry" by SEMI, a global industry organization representing the semiconductor sector, it was ascertained that these categories are not applicable to the OSAT (Outsourced Semiconductor Assembly and Test) industry and should therefore be excluded from Category 11&12. (https://discover.semi.org/scope-3-category-11-ghg-assessment-download-form.html)

Greenhouse Gas Inventory Information of TWSE/TPEx Listed Company		2024
		Emissions (t CO_2e)
ASE Technology Holding Co., Ltd.	Scope 1 Direct Greenhouse Gas (GHG) Emissions	32
	Scope 2 (market-based) Indirect Greenhouse Gas (GHG) Emissions	112
	Subtotal	144
Consolidated Subsidiaries	Scope 1 Direct Greenhouse Gas (GHG) Emissions	132,217
	Scope 2 (market-based) Indirect Greenhouse Gas (GHG) Emissions	1,799,647
	Subtotal	1,931,864
Total [1]		1,932,009
Intensity (metric tons CO_2e/NT$ million revenue)		3.2448

[1] The GHG inventory data of ASEP Cayman Ltd and Cyland Corp were still undergoing third-party verification prior to the publication of ASEH's sustainability report
USI Hirschmann Car Communication GmbH, Hirschmann Car Communication Holding S.a.r.l., USI Asteelflash and related subsidiaries, comprising a total of 21 companies, have completed the GHG inventory and are expected to complete third-party verification in 2026

B. The amount of water withdrawals and discharge in water-stressed regions [1]

Water withdrawal

		Water withdrawals at ASEH facilities (ML)	Water withdrawals in water-stressed regions[2] (ML)
Total water withdrawals	Surface water	18	0
	Groundwater	3,502	0
	Third-party water	18,367	4,264
Water withdrawals by source of water	Freshwater (TDS ≤ 1,000 mg/L)	19,603	4,252
	Other sources of water (TDS > 1,000 mg/L)	0	0

Water discharge

		Water discharge at ASEH facilities (ML)	Water discharge in water-stressed regions[3] (ML)
Water discharge by discharge destination	Surface water	10,034	0
	Groundwater	0	0
	Marine water	0	0
	Third-party water	5,837	3,576
Total water discharge	Surface water + groundwater + marine water + third-party water	15,871	3,576
Water discharge by source of water	Freshwater (TDS ≤ 1,000 mg/L)	471	527
	Other sources of water (TDS > 1,000 mg/L)	2,805	0

Water consumption

Total water consumption	Total water withdrawals - Total water discharge	6,015	688

[1] Areas in water stress (Stress>40%): Water withdrawal in these areas accounted for 19% of the overall water withdrawal. Water discharge accounted for 23% of the total water consumption
[2] Water withdrawals in water-stressed regions (Stress>40%): (1) ASE: Shanghai Material, ISE Labs China, Wuxi; (2) USI: Zhangjiang, Shengxia, Jinqiao, Kunshan, Mexico, Suzhou(ASTEELFLASH); (3) SPIL: Suzhou
[3] Water discharge in water-stressed regions (Stress>40%): (1) ASE: Shanghai Material, ISE Labs China, Wuxi; (2) USI: Zhangjiang, Jinqiao, Kunshan, Mexico, Suzhou(ASTEELFLASH); (3) SPIL: Suzhou

C. Effluent quality of our facilities with on-site wastewater treatment [1]

Item	Unit	Taiwan_to land		Taiwan_to ocean		China		Japan	
		Effluent Standard	Min. ~ Max.	Effluent Standard [2]	Min. ~ Max.	Effluent Standard (Nation)	Min. ~ Max.	Effluent Standard (Nation)	Min. ~ Max.
pH	pH	6~9	6.2~8.3	6~9	7.4~7.9	6~9	7~8.6	5.8~8.6	6.9~7.9
COD concentration [3]	mg/L	100	3.2~42.3	280	6.1~24.1	500	24.5~487	160	-
BOD concentration [4]	mg/L	-	1~11.8	100	1~5.8	300	10.3~209.8	160	0.5~1
Suspended Solid (SS) concentration [5]	mg/L	30	1~16.9	100	1.2~15.5	400	5.8~48.67	200	0.5~16
Cu^{2}+ concentration	mg/L	1.5	ND~0.34	2	0.0097~0.35	1	0.05~0.09	3	ND<0.1000
Ni^{2}+ concentration	mg/L	0.7	ND~0.12	1	0.006~0.08	0.1	0.002~0.011	-	-

Item	Unit	South Korea		Malayisa		Vietnam	
		Effluent Standard	Min. ~ Max.	Effluent Standard	Min. ~ Max.	Effluent Standard	Min. ~ Max.
pH	pH	5.8~8.6	6.7~7.6	5.5~9.0	7.1~7.7	5~9	7~9
COD concentration [3]	mg/L	NA	-	200	4~20	500	110~145
BOD concentration [4]	mg/L	80	5.2~24	50	2~5	500	56~76
Suspended Solid (SS) concentration [5]	mg/L	80	0.3~8.3	100	1~2	500	52~95
Cu^{2}+ concentration	mg/L	3	ND~0.028	1	0.05~0.13	2	-
Ni^{2}+ concentration	mg/L	3	-	1	0.1	0.2	-

[1] ASE ISE Labs China and ISE Labs are the testing laboratories where water usage is only for public facilities and domestic. ASE Singapore and the other electronic manufacturing service facilities (USI Kunshan, Huizhou, Mexico, and Suzhou(ASTEELFLASH)) do not have on-site wastewater treatment. Thus, these six facilities are not included in the statistics
[2] Refer to the Class B marine areas of Marine Discharge Pipe Effluent Standards released on October 20, 2017, to the discharge water standards for marine discharge pipelines
[3] Waste water discharge from the SPIL Hsinchu Facility is diverted into the park's sewer system and waste water treatment plant in accordance with the Hsinchu Science Park Effluent Standards. Also, USI Nantou Facility is diverted into the park's sewer system and waste water treatment plant in accordance with the Nankang Industrial Park Effluent Standards. Therefore, these two facilities are not included
[4] USI Nantou Facility is diverted into the park's sewer system and waste water treatment plant in accordance with the Nankang Industrial Park Effluent Standards. Therefore, this facility is not included
[5] Waste water discharge of the SPIL Zhong Ke and Zhong Ke II facilities is diverted into the park's sewer system and waste water treatment plant in accordance with the Central Taiwan Science Park Effluent Standards, and is therefore not included

D. Product Lifecycle Management

Category	Index	Unit	2024
Life Cycle Assessment Approach	Full LCAs	% (Percentage of Total Products)	38.67%
	Simplified LCAs	% (Percentage of Total Products)	12.88%
	Others (green products meet international regulations & customer requirements.)	% (Percentage of Total Products)	48.45%
End-of-life products and e-waste	Weight of end-of-life products and e-waste [1]	ton	641
	The percentage of end-of-life products and e-waste that were recovered [2]	%	3
	The percentage of end-of-life material recovered that was recycled [3]	%	1

E. Environmental issues Training

Topic	Training course description	Total time (Hours)	Total participants
Energy	Training courses include matters related to efficiency management or raising awareness to reduce energy consumption	812	1,463
Water	Training courses include matters related to water efficiency management or raising awareness of water conservation	123	3,070
Waste	Training courses include matters related to waste management or raising awareness to reduce waste	176	43,881

F. Environmental Violations

	2021	2022	2023	2024
Number of significant violations of legal obligations/regulations [4]	0	0	0	0
Amount of fines/penalties related to the above (unit: US$)	0	0	0	0
Environmental liability accrued at year end (unit: US$)	0	0	0	0

[1] End-of-life material is defined as products, materials, and parts, including electronic waste material (e-waste), that at the end of their useful life would have been disposed of as waste. The scope of end-of-life material excludes materials that have been returned to customer
[2] End-of-life material that was recovered is defined as the above-mentioned end-of-life material that have instead been collected to be recovered or regenerated a usable product
[3] Recycled material is defined as the above-mentioned end-of-life material recovered that are used for the same purpose for which they were conceived, including products donated and/or refurbished by the entity or by third parties
[4] Fine/penalty individually costs more than US$10,000 is defined as significant

G. Implementation of Climate-Related Information

Item	Implementation Status
1. Describe the board of directors' and management's oversight and governance of climate-related risks and opportunities.	1. The Board of Directors of the Company serves as the supervisory and governance body for climate-related issues. It is responsible for approving risk policies, overseeing climate-related risks, and making decisions pertaining to climate matters. The Board of Directors has established the Risk Management Committee and the Corporate Sustainability and Information Security Committee (CSISC) as bodies responsible for climate-related risks and opportunities. Each committee consists of Directors who are separately responsible for managing climate risks and climate sustainability strategies, promoting sustainable developments of climate-related issues and the operation of risk management mechanisms, and implementing decisions made by the Board of Directors. We report on the management and execution status of climate-related issues to the Board of Directors on a quarterly basis, enabling the Board of Directors to understand the impact of climate change on the Company's business operations and develop corresponding strategies.
2. Describe how the identified climate risks and opportunities affect the business, strategy, and finances of the business (short, medium, and long term).	2. The Company regularly identifies and assesses climate-related physical and transition risks on a yearly basis. This is implemented by using questionnaires and integrating international (national) risk management tools and databases. Risks and opportunities are distinguished based on short-term (< 3 years), medium-term (3-5 years), and long-term (> 5 years) occurrences. The impacts of these risks and opportunities on the Company's finances and operations are identified, followed by proposing countermeasures and management strategies. For detailed information, please refer to the Company's Climate and Environmental Report (TCFD&TNFD), and publicly available information on our website.
3. Describe the financial impact of extreme weather events and transformative actions.	3. The Company conducts annual assessments of climate-related physical and transition risks. We utilize questionnaires to identify extreme weather events, including but not limited to heavy rainfall, drought, and significant temperature changes. Additionally, we assess the potential impact and influence of these weather events on our business operations and finances. For more detailed information, please consult the Company's Climate and Environmental Report, and publicly available information on our website.
4. Describe how climate risk identification, assessment, and management processes are integrated into the overall risk management system.	4. The executive secretariat of the Risk Management Committee collaborates with our subsidiaries to conduct an identification and assessment of climate-related physical and transition risks. This process involves using questionnaires and collecting data to identify physical and transition risks or events that could affect our business objectives, as well as their financial and operational implications. Based on the findings of this process, countermeasures and management strategies are proposed, and the results of climate risk identification are reported to the Board of Directors annually, which tracks the implementation status of our climate measures regularly.
5. 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.	5. The Company has established climate scenarios based on the IPCC AR6 and international energy parameters, taking into account regulatory, technological, market, and reputational factors. These factors are used to assess the resilience of the company to climate change. For more detailed information, please refer to the Company's Climate and Environmental Report (TCFD&TNFD), and publicly available information on our website.
6. 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.	6. The Company will develop a transition plan in response to the annual risk identification results. This plan will include indicators and goals for identifying and managing physical risks and transition risks. For more information, please consult the Company's Climate and Environmental Report (TCFD&TNFD), and the publicly available information on our website.
7. If internal carbon pricing is used as a planning tool, the basis for setting the price should be stated.	7. Internal carbon pricing is being gradually introduced based on the regions of subsidiary companies. This is done in conjunction with the budget system to encourage subsidiary companies to implement emission reduction projects.
8. 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.	8. To access information about the annual GHG emissions and renewable energy usage, please refer to the Company's Climate and Environmental Report (TCFD&TNFD), and the publicly available information on our website.
9. Greenhouse gas inventory and assurance status.	9. The Company has established short-term and long-term net zero goals, with annual greenhouse gas inventories verified by third-party organizations. Progress, achievements, and specific actions are reported to the Board of Directors on a quarterly basis. For more detailed information, please refer to the Company's Climate and Environmental Report (TCFD&TNFD), and the publicly available information on our website.

Social Data

A. Global Workforce Structure by Nationality/Race

Nationality [1]	Employee		Management Level	
	Number	Percentage of Total Employee (%)	Number	Percentage of Total Management Level (%)
Taiwan	47,660	56.78%	4,383	69.11%
China	13,905	16.56%	1,491	23.51%
Philippines	12,160	14.49%	27	0.42%
Mexico	2,938	3.50%	96	1.51%
Malaysia	2,088	2.49%	154	2.43%
South Korea	1,942	2.31%	40	0.63%
Indonesia	1,102	1.31%	1	0.02%
Vietnam	1,333	1.59%	39	0.61%
Japan	392	0.47%	31	0.49%
Singapore	232	0.28%	63	0.99%
Nepal	99	0.12%	0	0%
Thailand	35	0.04%	0	0%
Myanmar	20	0.02%	0	0%
U.S.A	14	0.02%	10	0.16%
India	14	0.02%	1	0.02%
United Kingdom	4	0.00%	4	0.06%
Canada	2	0.00%	1	0.02%
France	2	0.00%	1	0.02%
Belize	1	0.00%	0	0%
Bangladesh	1	0.00%	0	0%
Turkey	1	0.00%	0	0%
Total	83,945		6,342	

Race [2]	Employee		Management Level	
	Number	Percentage of Total Employee (%)	Number	Percentage of Total Management Level (%)
Asian	158	67.80%	25	58.14%
Hispanic or Latino	34	14.59%	5	11.63%
White	30	12.88%	12	27.91%
Native Hawaiian or Other Pacific Islander	5	2.15%	0	0%
Two or More Races	5	2.15%	1	2.32%
Black or African American	1	0.43%	0	0%
Total	233		43	

[1] The global workforce by nationality do not include ISE Labs employees
[2] The global workforce by race only includes ISE Labs employees

B. Foreign Employee

Business Unit	Category	Group		Number	Percentage of Total Employee in Business Unit (%)
Semiconductor Assembly (packaging), Testing and Materials (ATM)	Employment Type	Regular		13,686	19.96%
		Contract		4	0.01%
	Gender	Male		2,668	3.89%
		Female		11,022	16.08%
	Total			13,690	
	Employment Visa	Gender	Male	2,193	3.20%
			Female	10,687	15.59%
	Total			12,880	
Electronic Manufacturing Service (EMS)	Employment Type	Regular		638	4.09%
		Contract		2	0.01%
	Gender	Male		156	1.00%
		Female		484	3.10%
	Total			640	
	Employment Visa	Gender	Male	156	1.00%
			Female	484	3.10%
	Total			640	

C.Employee Information [1]

Employment Category	Gender		Location			
	Male	Female	Taiwan	China	Rest of Asia	Americas
Permanent Employees	42,478	35,646	54,644	12,968	7,345	3,176
Temporary Employees	1,618	4,425	4,984	912	131	16
Non-guaranteed Hours Employees	1	1	0	0	0	2
Total	44,106	40,072	59,628	13,880	7,476	3,194
Full-time Employees	44,047	40,035	59,551	13,880	7,471	3,180
Part-time Employees	59	37	77	0	5	14
Total	44,106	40,072	59,628	13,880	7,476	3,194

D.Male/Female Employee (by Job Position)

Category	Group	Male		Female	
		Number	Group Percentage(%)	Number	Group Percentage (%)
Position	Management	4,488	70.29%	1,897	29.71%
	Engineering	24,773	85.70%	4,133	14.30%
	Administration	1,763	30.72%	3,975	69.28%
	Skill Job	13,083	30.32%	30,066	69.68%
Management Level	Top Management Positions [2]	611	83.47%	121	16.53%
	Middle management Positions	1,713	81.11%	399	18.89%
	Junior Management Positions	1,891	66.12%	969	33.88%
	Management Positions in Revenue-generating Function	3,698	71.83%	1,450	28.17%
STEM Related Position		28,408	81.71%	6,358	18.29%

[1] The employee information: the number of employees still employed as of December 31st
[2] Top Management Positions: Senior Manager to Senior Vice President

E. New Hire Employee

Category	Group	Number	Percentage of Total New Hire Employee (%)
Gender	Male	8,944	55.76%
	Female	7,097	44.24%
Nationality	Native	12,766	79.58%
	Foreign	3,275	20.42%
Disabled	Male	92	0.57%
	Female	46	0.29%
Position	Management	187	1.17%
	Engineering	4,007	24.98%
	Administration	733	4.57%
	Skill Job	11,114	69.28%
Age	<30	10,438	65.07%
	30-50	5,396	33.64%
	>50	207	1.29%
Education	Ph.D	68	0.42%
	Master	1,053	6.57%
	Bachelor	4,761	29.68%
	Other Higher Education/ High School and Below	10,159	63.33%
Total		16,041	

F. Turnover Rate

Category	Group	2021		2022		2023		2024	
		Number	Percentage of Group (%)	Number	Percentage of Group (%)	Number	Percentage of Group (%)	Number	Percentage of Group (%)
Gender	Male	10,339	57.3%	7,319	53.7%	6,518	55.2%	5,300	55.20%
	Female	7,695	42.7%	6,312	46.3%	5,286	44.8%	4,301	44.80%
Position	Management	433	2.4%	369	2.7%	297	2.5%	301	3.13%
	Engineering	3,956	21.9%	3,364	24.7%	2,424	20.5%	2,494	25.98%
	Administration	843	4.7%	791	5.8%	684	5.8%	646	6.73%
	Skill Job	12,802	71.0%	9,107	66.8%	8,399	71.2%	6,160	64.16%
Age	<30	9,995	55.4%	6,738	49.4%	6,080	51.5%	4,296	44.75%
	30-50	7,591	42.1%	6,451	47.3%	5,242	44.4%	4,722	49.18%
	>50	448	2.5%	442	3.2%	482	4.1%	583	6.07%
Education	Ph.D	21	0.1%	15	0.1%	12	0.1%	14	0.15%
	Master	909	5.0%	739	5.4%	529	4.5%	632	6.58%
	Bachelor	6,420	35.6%	3,809	27.9%	2,963	25.1%	2,793	29.09%
	Other Higher Education/ High School and Below	10,684	59.2%	9,069	66.5%	8,300	70.3%	6,162	64.18%
Total		18,034		13,631		11,804		9,601	

G. Full-time Employees in Non-executive Positions

Category	2021	2022	2023	2024	Difference of 2023-2024
Employee [1]	48,013	50,061	52,948	51,163	-1,785
Average Compensation (NT$)	914,627	1,001,460	929,206	975,821	46,615
Median Compensation (NT$)	726,063	771,532	739,048	809,892	70,844

H. Parental Leave

Category	Group	Number	Percentage of Group (%)	Total
Employees Qualified for Parental Leave in 2024	Male	3,142	63.82%	4,923
	Female	1,781	36.18%	
Employees that Applied for Parental Leave in 2024	Male	345	34.92%	988
	Female	643	65.08%	
Application Rate (%)	Male	11%		20%
	Female	36%		
Employees Expected to Return to Work in 2024 After Parental Leave	Male	334	36.05%	915
	Female	581	63.50%	
Employees Return to Work in 2024 After Parental Leave and Returned as Scheduled or In Advance	Male	273	38.56%	708
	Female	435	61.44%	
Return Rate (%)	Male	82%		77%
	Female	75%		
Actual Number of Employees Returned to Work in 2023	Male	205	33.33%	615
	Female	410	66.67%	
Employees that Returned to Work in 2023 and Still in Service in 2024	Male	167	32.62%	512
	Female	345	67.38%	
Retention Rate (%)	Male	81%		83%
	Female	84%		
NewBorns in 2024		2,003		

[1] "Employees" here refers to those under the employment of ASEH, ASE (ASE Kaohsiung and ASE Chungli; excluding ASE Test Inc. and ASE Electronics Inc.), SPIL and USI facilities in Taiwan；only employees who have been employed and receiving regular pay for a minimum of 6 months will be included in the calculation

I. Employee Engagement Survey [1]

Category	Total Employee	Gender		Age							Management Level		
		Male	Female	<20	20-24	25-29	30-34	35-39	40-45	>45	Junior	Middle	Senior
Employee Experience Indicators (% in 2023)													
Inspiration	79	78	82	67	80	75	76	78	80	84	83	88	85
Inclusion	82	81	83	75	83	80	81	82	82	83	83	88	83
Understanding	79	79	80	68	79	75	77	79	81	83	82	87	85
Drive	79	79	80	71	79	77	77	78	80	83	82	86	88
Voice	79	79	81	68	79	76	78	79	80	82	84	86	86
Organization	82	82	83	70	81	79	81	81	83	85	84	87	87
Growth	75	75	76	66	75	72	73	74	76	79	80	82	81
Capability	71	71	71	62	71	68	70	70	72	74	76	80	78
Fair Rewards	68	67	69	67	68	66	67	67	68	71	70	78	74
Trust	69	69	71	63	72	66	66	68	70	74	74	78	76
Collaboration	84	83	87	72	85	82	83	83	84	87	87	91	89
Support	82	82	81	76	83	82	82	81	81	81	84	90	88
Employee Engagement Indicators (% in 2023)													
ESG	81	81	83	74	79	78	80	81	83	86	83	88	88
Retention	70	70	71	62	62	64	67	70	75	79	72	80	78
Sustainable Engagement	77	76	78	76	76	76	77	76	76	80	76	84	87
DEI - Belonging	77	77	77	80	78	78	78	77	76	77	76	83	84
DEI - Impartiality	78	79	77	79	79	79	79	77	77	78	79	89	88
DEI - Opportunity	73	73	74	77	75	74	74	73	72	73	72	83	81
Wellbeing	62	61	63	65	62	61	62	61	61	65	60	69	74

[1] The Employee Engagement Survey is conducted once every two years and the next survey will be in 2025

J. Training Hours and Training Spent

Category	Group		Number	Percentage of Group (%)
Training Hour (Hour)	Gender	Male	4,092,386	54%
		Female	3,481,476	46%
		Total	7,573,862	
	Position	Management	512,554	7%
		Engineering	2,877,095	38%
		Administration	243,364	3%
		Skill Job	3,940,849	52%
	Training Type	Mandatory Trainings	3,962,275	52%
		Non-mandatory Trainings	3,611,586	48%
Training Spent (US$)	Gender	Male	4,682,961	59%
		Female	3,217,223	41%
		Total	7,900,184	
	Age	<30	2,254,793	29%
		30-50	5,144,239	65%
		>50	501,152	6%
	Management Level	Senior	74,009	10%
		Middle	257,225	36%
		Junior	389,839	54%
	Training Type	Mandatory Trainings [1]	2,982,007	38%
		Non-mandatory Trainings [2]	4,918,177	62%

K. Human Capital Return on Investment [3]

Year	2021	2022	2023	2024
Human Capital Return on Investment (ROI)	1.63	1.75	1.43	1.38

L. Non-employee Workers [4]

Working Location	Number [5]
Taiwan	18,648
China	5,486
Rest of Asia	1,734
Americas	1,096
Total	26,964

[1] Mandatory Trainings refer to the trainings that provide employees with the basic skills they need to carry out their daily work. For example, training on occupational health and safety, legal/regulation compliance and RBA etc.
[2] Non-mandatory Trainings refer to the trainings that develop or improve employee skills. For example, smart manufacturing, automation and quality related courses
[3] Human Capital ROI = (Total Revenue – (Total Operating Expenses - Total employee-related expenses)) / Total employee-related expenses
[4] Non-employee workers:
(1) Types and job functions include: engineering contractors, equipment maintenance, IT contractors, cleaning, janitorial services, catering, and convenience store services
(2) Contractual relationship: employed through third-party contractors
(3) The reason of non-employee workers increases than 2023: increase in engineering contractors
[5] Headcount calculation: Depending on the availability and accessibility of data from each subsidiary/factory site, the calculation includes (1) the number of wokers still employed as of December 31st and (2) the number of individuals who have been employed at any point between January 1st and December 31st (including those who have already resigned)

M. Workers[1] Occupational Health and Safety

Category	Group	Employee	Non-employee
Category of Occupational Injuries	Number of Physical Injuries	82	4
	Number of Chemical Injuries	5	0
	Number of Ergonomic Injuries	6	0
	Number of Biological Injuries	0	0
	Number of Psychosocial Injuries	0	0
	Total	93	4
Occupational Injuries	Rate of Occupational Injury [2]	0.53	0.13
	Number of Disability Cases	0	0
	Rate of Disability Cases [3]	0	0
	Number of Fatalities	0	0
	Rate of Fatalities [4]	0	0
Occupational Diseases	Occupational Diseases	9	0
	Number of Fatalities	0	0
	Rate of Fatalities [5]	0	0
Total Number of Working Hours (Hour)		176,076,911	30,065,412[6]

N. Employee Absence Statistics

Year	2021	2022	2023	2024
Absence Ratio (%)	2.0%	2.1%	2.2%	1.6%

[1] The Workers include employee and non-employee workers (exclude visitors)
[2] Rate of occupational injury= (number of occupational injury *1,000,000)/ total hours of actually worked
[3] Rate of disability cases from occupational injuries = (number of disability cases from occupational injuries *1,000,000)/ total number of working hours, excluding number of fatalities
[4] Rate of fatalities from occupational injuries= (number of fatalities from occupational injuries *1,000,000)/ total number of working hours
[5] Rate of fatalities from occupational diseases= (number of fatalities from occupational diseases *1,000,000)/ total number of working hours
[6] Actual working hours of non-employee workers: Depending on the availability and accessibility of data from each subsidiary/ factory site, the calculation includes (1) calculating annual working hours based on actual attendance records and (2) estimating annual working hours based on the total headcount

O. Social Involvement Key Performance

Environmental Technology Research Projects

	2021	2022	2023	2024
No. of project	10	19	13	8

Industry-Academia Collaboration Programs

	2021	2022	2023	2024
No. of interns	224	410	502	686
No. of people participated in the semiconductor courses	862	209	453	615
No. of innovative industry-academia collaboration projects	66	74	81	65

Afforestation Projects

	2021	2022	2023	2024
No. of planting area (hectares)	13.42	31.79	31.68	16.84

Volunteer

	2021	2022	2023	2024
No. of volunteers participating in the event	3,810	4,700	3,660	4,384
No. of volunteer hours	8,500	12,560	11,300	13,582

Environmental Education Program

	2021	2022	2023	2024
No. of courses	45	1,348	264	93
No. of participation	1,770	26,017	11,460	5,214
No. of seed teachers	42	173	163	4
No. of training materials/films	27	59	53	10

Supply Chain Data

A. Supplier Sustainability Assessment

Category		Supplier		2024	2024 Target
Desk Assessment		Tier-1 Supplier		824	Supplier Sustainability Assessment: 1. Tier-1 Supplier: At least 800 suppliers 2. Significant Supplier: At least 80%
		Significant Supplier	Tier-1 Supplier	162	
			Non Tier-1 Supplier	20	
Physical Assessment	On-site and Remote Assessment	Tier-1 Supplier		125	
		Significant Supplier	Tier-1 Supplier	43	
			Non Tier-1 Supplier	1	
	RBA VAP and 3 rd party Assessment	Tier-1 Supplier		104	
		Significant Supplier	Tier-1 Supplier	22	
			Non Tier-1 Supplier	4	

B. Supplier ESG Capacity Building Programs

Category	2024	2024 Target
Total Number of Tier-1 Suppliers in ESG Capacity Building Programs	185	Supplier ESG Capacity Building Programs: 1. Tier-1 Suppliers: At least 100 suppliers 2. Significant Suppliers: At least 60 suppliers
Total Number of Significant Suppliers in ESG Capacity Building Programs	88	
Significant Suppliers in ESG Capacity Building Programs (%)	40.3%	

C. Non Tier-1 Raw Material Suppliers Risk Assessment

Category	2021	2022	2023	2024
Non Tier-1 Suppliers Conduct Risk Assessment (by Tier-1 procurement amount) (%)	61%	53%	46%	57.6%

D. Conflict Minerals

Category	2021	2022	2023	2024
DRC Conflict-Free Product Lines of Packaging and Material Services (%)	100%	100%	100%	100%
DRC Conflict-Free Product Lines of Electronic Manufacturing Services (%)	100%	100%	100%	100%

E. Sustainable Raw Material

Category	2024	
Metal Materials	Amount (tonnes)	Share of Metal used that is Recycled (%)
Aluminium	1263.64	11.76%
Cobalt	0.67	22.77%
Copper	15621.00	8.04%
Iron/Steel	519.69	0.23%
Nickel	402.85	0.00%
Lithium	0.53	0.00%
Titanium	0.11	2.44%

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INDEPENDENT AUDITORS' LIMITED ASSURANCE REPORT

ASE Technology Holding Co., Ltd.

We have undertaken a limited assurance engagement on the Sustainability Report ("the Report") of ASE Technology Holding Co., Ltd. ("the Company") for the year ended December 31, 2024.

Responsibilities of Management

The management of the Company is responsible for the preparation of the Report in accordance with Taiwan Stock Exchange Corporation Rules Governing the Preparation and Filing of Sustainability Reports by TWSE Listed Companies, Universal Standards, Sector Standards and Topic Standards published by the Global Reporting Initiative (GRI), SASB Standards published by the Sustainability Accounting Standards Board (SASB), and for such internal control as management determines is necessary to enable the preparation of the Report that are free from material misstatement resulted from fraud or error.

Auditors' Responsibilities

Our responsibility is to plan and conduct our limited assurance engagement in accordance with the International Standard on Assurance Engagements 3000 (Revised), "Assurance Engagements Other than Audits or Reviews of Historical Financial Information" issued by the International Auditing and Assurance Standards Board to issue a limited assurance report on whether the Report is free from material misstatement. The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement and, therefore, a lower assurance level is obtained than a reasonable assurance.

The information on greenhouse gas emission (scope 1, scope 2 and scope 3) and related energy and electricity consumption that is disclosed in the Report has been verified (or amended as necessary) by other third-party verification organization. Thus, the scope of this Independent Auditors' Limited Assurance Report does not include conclusion on the disclosure of information on greenhouse gas emission (scope 1, scope 2 and scope 3) and related energy and electricity consumption.

We based on our professional judgment in the planning and conducting of our work to obtain evidence supporting the limited assurance. Because of the inherent limitations of any internal control, there is an unavoidable risk that even some material misstatements may remain undetected. The procedures we performed include, but not limited to:

- Inquiring of management and the personnel responsible for the Report to obtain an understanding of the policies, procedures, including the understanding of procedure and result for materiality analysis, internal control, and information system, relevant to the Report to identify areas where a material misstatement of the Report is likely to arise.
- Selecting sample items from the Report and performing procedures such as inspection, re-calculation, re-performance, observation, and analytical procedures to obtain evidence supporting limited assurance.

Inherent Limitations

The Report involved non-financial information, which was subject to more inherent limitations than financial information. The information may involve significant judgment, assumptions and interpretations by the management, and the different stakeholders may have different interpretations of such information.

Independence and Quality Control

We have complied with the independence and other ethical requirements of the Norm of Professional Ethics for Certified Public Accountant in the Republic of China, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior.

The firm applies Standard on Quality Management 1 "Quality Management for Public Accounting Firms" issued by the Accounting Research and Development Foundation of the Republic of China, which requires the firm to design, implement and operate a system of quality management including policies or procedures regarding compliance with ethical requirements, professional standards, and applicable legal and regulatory requirements.

Conclusion

Based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that the Report is not prepared, in all material respects, in accordance with the applicable criteria.

Other Matters

We shall not be responsible for conducting any further assurance work for any change of the Report or the applicable criteria after the issuance date of this report.

Deloitte & Touche

Deloitte & Touche
Taipei, Taiwan
Republic of China

August 11, 2025

GRI Content Index

Statement of use	ASEH has reported in accordance with the GRI Standards for the period 2024/01/01~2024/12/31.
GRI 1 used	GRI 1: Foundation 2021
Applicable GRI Sector Standard(s)	N/A

GRI Standard	Disclosure	Related Section / Explanatory Notes	Page No.
GRI 2: General Disclosures 2021			
The organization and its reporting practices			
2-1	Organizational details	1.1 Company Profile	14-15
2-2	Entities included in the organization's sustainability reporting	Report Boundary	8
2-3	Reporting period, frequency and contact point	The reporting period of this report is from January 1, 2024 to December 31, 2024, which is the same as the reporting period of the financial report. We publish the sustainability report every year in August. ABOUT OUR REPORTING	8
2-4	Restatements of information	There is no restatement of information from previous report.	-
2-5	External assurance	ABOUT OUR REPORTING Third Party Assurance Statement	8 257
Activities and workers			
2-6	Activities, value chain and other business relationships	1.1 Company Profile	14-15
2-7	Employees	Appendix: Social Data - C. Employee Information 6.1 Talent Attraction and Retention	249 164
2-8	Workers who are not employees	Appendix: Social Data - L. Non-employee Workers	253
Governance			
2-9	Governance structure and composition	2.1 Organization and Structure 3.1 Board of Directors For information on the composition of the board of directors, please refer to the diversity and management objectives of board of directors at the company's official website https://ir.aseglobal.com/html/ir_board.php	18-19 56
2-10	Nomination and selection of the highest governance body	3.1 Board of Directors	56
2-11	Chair of the highest governance body	3.1 Board of Directors	56
2-12	Role of the highest governance body in overseeing the management of impacts	2.1 Organization and Structure 2.4 Materiality Assessment and Stakeholder Communication 3.4 Risk Management	18-19 38-52 64-73
2-13	Delegation of responsibility for managing impacts	3.4 Risk Management	64-73
2-14	Role of the highest governance body in sustainability reporting	This report was approved and authorized by the Corporate Sustainability and Information Security Committee.	-
2-15	Conflicts of interest	3.1 Board of Directors For more information, please refer to 2024 Annual Report " List of Major Shareholders", "Relationships among the Top Ten Shareholders", and 2024 Consolidated Financial Report "Marketable Securities Held", "Total Purchases from or Sales to Related Parties", and "Receivables from Related Parties".	56
2-16	Communication of critical concerns	3.1 Board of Directors For more information, please refer to 2024 Annual Report "Ch. 2.3 Corporate Governance".	56-57
2-17	Collective knowledge of the highest governance body	3.1 Board of Directors	56
2-18	Evaluation of the performance of the highest governance body	3.1 Board of Directors	56-57

GRI Standard	Disclosure	Related Section / Explanatory Notes	Page No.
2-19	Remuneration policies	3.1 Board of Directors When necessary, the company will provide recruitment incentive or termination payments based on market conditions and personal performance of directors. For the retirement benefits, please refer to page 142 of the 2024 Annual Report (English version).	56-57
2-20	Process to determine remuneration	2.4 Materiality Assessment and Stakeholder Communication 3.1 Board of Directors	38-52 56
2-21	Annual total compensation ratio	Appendix: Social Data - G. Full-time Employees in Non-executive Positions Due to the company's privacy guidelines, we do not report the annual total compensation for the organization's highest-paid individual. For more information on the ratio between annual compensation of the president and the mean of annual compensation of all other employees, please refer to https://ir.aseglobal.com/html/ir_committees.php?	251
Strategy, policies and practices			
2-22	Statement on sustainable development strategy	LETTER FROM THE CHAIRMAN 2.2 Sustainability Strategies	11-13 24-29
2-23	Policy commitments	3.3 Business Ethics 3.4 Risk Management 3.5 Human Rights Management	61 64-73 74-80
2-24	Embedding policy commitments	3.3 Business Ethics	61-62
2-25	Processes to remediate negative impacts	2.4 Materiality Assessment and Stakeholder Communication	38-52
2-26	Mechanisms for seeking advice and raising concerns	3.3 Business Ethics	63
2-27	Compliance with laws and regulations	3.6 Regulatory Compliance Appendix: Environmental Data - F. Environmental Violation	81 246
2-28	Membership associations	8.5 Public Advocacy	233-239

GRI Standard	Disclosure	Related Section / Explanatory Notes	Page No.
Stakeholder engagement			
2-29	Approach to stakeholder engagement	2.4 Materiality Assessment and Stakeholder Communication	38-52
2-30	Collective bargaining agreements	6.1 Talent Attraction and Retention	175
GRI 3: Material Topics 2021			
3-1	Process to determine material topics	2.4 Materiality Assessment and Stakeholder Communication	38-52
3-2	List of material topics	2.4 Materiality Assessment and Stakeholder Communication	38-52
GRI 201: Economic Performance 2016			
3-3	Management of material topics	LETTER FROM THE CHAIRMAN 1.3 Financial Performance 2.2 Sustainability Strategies 2.4 Materiality Assessment and Stakeholder Communication	11-13 17 24-29 38-52
201-1	Direct economic value generated and distributed	1.3 Financial Performance 2.3 UN Sustainable Development Goals and Sustainable Value Assessment 3.2 Economic Performance and Tax Governance For further details on financial performance, please refer to the ASEH 2024 Consolidated Financial Report: https://ir.aseglobal.com/html/ir_financial.php	17 30-37 59-60
201-2	Financial implications and other risks and opportunities due to climate change	5.1 Climate Leadership	105-116
201-3	Defined benefit plan obligations and other retirement plans	6.1 Talent Attraction and Retention - Compensation and Benefit Policy Retirement/pension plans for ASEH employees were formulated in compliance with relevant Taiwanese laws such as the Labor Standards Act, Labor Pension Act, and applicable laws in the countries in which ASEH offices are located. For more information, please refer to page 138-145 of the ASEH 2024 Annual Report (English version) and page 64-69 of the ASEH 2024 Financial Report (English version)	169

GRI Standard	Disclosure	Related Section / Explanatory Notes	Page No.
201-4	Financial assistance received from government	ASEH is entitled to tax incentive. Please refer to page 84 of the ASEH 2024 Consolidated Financial Report (English version).	-
GRI 202: Market Presence 2016			
3-3	Management of material topics	2.2 Sustainability Strategies 2.4 Materiality Assessment and Stakeholder Communication 6.1 Talent Attraction and Retention	24-29 38-52 164-167
202-2	Proportion of senior management hired from the local community	3.1 Board of Directors ASEH is a registered company established under the jurisdiction of the Republic of China. Among board members who also serve as top managements (directors who hold executives positions), 25% were local residents (with Republic of China citizenship).	56
GRI 203: Indirect Economic Impacts 2016			
3-3	Management of material topics	2.2 Sustainability Strategies 2.3 UN Sustainable Development Goals and Sustainable Value Assessment 2.4 Materiality Assessment and Stakeholder Communication	24-29 30-37 38-52
203-1	Infrastructure investments and services supported	2.3 UN Sustainable Development Goals and Sustainable Value Assessment	30-37
GRI 204: Procurement Practices 2016			
3-3	Management of material topics	2.2 Sustainability Strategies 2.4 Materiality Assessment and Stakeholder Communication 7.4 Supply Chain Management Framework	24-29 38-52 206-207
204-1	Proportion of spending on local suppliers	7.2 Supply Chain Overview - Supporting Local Suppliers	200
GRI 205: Anti-corruption 2016			
3-3	Management of material topics	2.2 Sustainability Strategies 2.4 Materiality Assessment and Stakeholder Communication 3.3 Business Ethics	24-29 38-52 61-63
205-1	Operations assessed for risks related to corruption	3.3 Business Ethics	62
205-2	Communication and training about anti-corruption policies and procedures	3.3 Business Ethics 6.1 Talent Attraction and Retention 7.1 Supply Chain Sustainability Management	62 164 196
205-3	Confirmed incidents of corruption and actions taken	3.3 Business Ethics In 2024, ASEH did not engage in any political contributions.	63
GRI 206: Anti-competitive Behavior 2016			
3-3	Management of material topics	2.2 Sustainability Strategies 2.4 Materiality Assessment and Stakeholder Communication 3.3 Business Ethics	24-29 38-52 61-63
206-1	Legal actions for anticompetitive behavior, antitrust, and monopoly practices	In 2024, ASEH was not subjected to any legal actions regarding anti-competitive behavior and violations of anti-trust and monopoly legislation.	-
GRI 302: Energy 2016			
3-3	Management of material topics	2.2 Sustainability Strategies 2.4 Materiality Assessment and Stakeholder Communication 5.1 Climate Leadership 5.2 Energy and Carbon Management	24-29 38-52 105-121 122-125
302-1	Energy consumption within the organization	5.2 Energy and Carbon Management- Fossil Fuels (Non-renewable), Electricity and Renewable Energy Consumption	122-125
302-3	Energy intensity	5.2 Energy and Carbon Management- Electricity and Renewable Energy Consumption	123-124
302-4	Reduction of energy consumption	5.2 Energy and Carbon Management- Energy Management, Energy Saving and Carbon Reduction Projects	122 128-129
GRI 303: Water and Effluents 2018			
3-3	Management of material topics	2.2 Sustainability Strategies 2.4 Materiality Assessment and Stakeholder Communication 5.3 Water Stewardship	24-29 38-52 130-140
303-1	Interactions with water as a shared resource	2024 Key Performance 5.3 Water Stewardship	130-140

GRI Standard	Disclosure	Related Section / Explanatory Notes	Page No.
303-2	Management of water discharge related impacts	5.3 Water Stewardship-Wastewater management	140
303-3	Water withdrawal	5.3 Water Stewardship-Water withdrawal and reuse Appendix: Environmental Data - A. Waste, Water, Energy, GHG & Air emission Appendix: Environmental Data-B. The amount of water withdrawals and discharge in water-stressed regions	138 241 244
303-4	Water discharge	5.3 Water Stewardship - Wastewater management Appendix: Environmental Data - A. Waste, Water, Energy, GHG & Air emission Appendix: Environmental Data - B. The amount of water withdrawals and discharge in water-stressed regions Appendix: Environmental Data - C. Water discharge in water-stressed regions	140 241 244 245
303-5	Water consumption	5.3 Water Stewardship- Water withdrawal and reuse Appendix: Environmental Data - A. Waste, Water, Energy, GHG & Air emission Appendix: Environmental Data-B. The amount of water withdrawals and discharge in water-stressed regions	138 241 244
GRI 305: Emissions 2016			
3-3	Management of material topics	2.2 Sustainability Strategies 2.4 Materiality Assessment and Stakeholder Communication 5.2 Energy and Carbon Management	24-29 38-52 122-125
305-1	Direct (Scope 1) GHG emissions	5.2 Energy and Carbon Management-Greenhouse Gas Emissions Management	126
305-2	Energy indirect (Scope 2) GHG emissions	5.2 Energy and Carbon Management-Greenhouse Gas Emissions Management	126
305-3	Other indirect (Scope 3) GHG emissions	5.2 Energy and Carbon Management-Greenhouse Gas Emissions Management	127
305-4	GHG emissions intensity	5.2 Energy and Carbon Management-Greenhouse Gas Emissions Management Appendix: Environmental Data-A. waste, water, energy, GHG & air emission	126 242-243
305-5	Reduction of GHG emissions	5.1 Climate leadership - Greenhouse Gas Emissions Management 5.1 Climate leadership - Energy Saving and Carbon Reduction Projects	126 128-129
305-6	Emissions of ozone-depleting substances (ODS)	5.5 Air Emissions Control	146-147
305-7	Nitrogen oxides, sulfur oxides, and other significant air emissions	5.5 Air Emissions Control Appendix: Environmental Data - A. Waste, Water, Energy, GHG & Air emission	146-147 242
GRI 306: Waste 2020			
3-3	Management of material topics	2.2 Sustainability Strategies 2.4 Materiality Assessment and Stakeholder Communication 5.4 Circular Resources	24-29 38-52 141-145
306-1	Waste generation and significant waste-related impacts	5.4 Circular Resources	141-145
306-2	Management of significant waste-related impacts	5.4 Circular Resources	141-145
306-3	Waste generated	5.4 Circular Resources Appendix: Environmental Data - A. Waste, Water, Energy, GHG & Air emission	141-145 241
306-4	Waste diverted from disposal	5.4 Circular Resources Appendix: Environmental Data - A. Waste, Water, Energy, GHG & Air emission	141-145 241
306-5	Waste directed to disposal	5.4 Circular Resources Appendix: Environmental Data - A. Waste, Water, Energy, GHG & Air emission	141-145 241
GRI 308: Supplier Environmental Assessment 2016			
3-3	Management of material topics	2.2 Sustainability Strategies 2.4 Materiality Assessment and Stakeholder Communication 7.1 Supply Chain Sustainability Management 7.5 Supply Chain Sustainability Management Performance	24-29 38-52 196 208-211

GRI Standard	Disclosure	Related Section / Explanatory Notes	Page No.
308-1	New suppliers that were screened using environmental criteria	3.3 Business Ethics 7.4 Supply Chain Management Framework – Supplier Sustainability Management Approach	62 207
308-2	Negative environmental impacts in the supply chain and actions taken	7.1 Supply Chain Sustainability Management 7.5 Supply Chain Sustainability Management Performance	196 208-211
GRI 401: Employment 2016			
3-3	Management of material topics	2.2 Sustainability Strategies 2.4 Materiality Assessment and Stakeholder Communication 6.1 Talent Attraction and Retention	24-29 38-52 164-167
401-1	New employee hires and employee turnover	6.1 Talent Attraction and Retention Appendix: Social Data – E. New Hire Employee, F. Turnover Rate	164-168 250
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	ASEH has provided all full-time employees with comprehensive insurance / parental leave / retirement schemes.	-
401-3	Parental leave	Appendix: Social Data – H. Parental Leave	251
GRI 402: Labor/Management Relations 2016			
3-3	Management of material topics	2.2 Sustainability Strategies 2.4 Materiality Assessment and Stakeholder Communication 6.1 Talent Attraction and Retention	24-29 38-52 164-177
402-1	Minimum notice periods regarding operational changes	Regarding employee discharges and layoffs, all ASEH sites notify their employees of significant changes to collective agreements in advance pursuant to local laws and regulations. Any labor-management dispute regarding collective agreements is submitted to the employee representatives in writing for further negotiation.	-
GRI 403: Occupational Health and Safety 2018			
3-3	Management of material topics	2.2 Sustainability Strategies 2.4 Materiality Assessment and Stakeholder Communication 6.3 Occupational Health and Safety	24-29 38-52 185-186
403-1	Occupational health and safety management system	6.3 Occupational Health and Safety	185-186
403-2	Hazard identification, risk assessment, and incident investigation	6.3 Occupational Health and Safety	185-188
403-3	Occupational health services	6.3 Occupational Health and Safety	188-191
403-4	Worker participation, consultation, and communication on occupational health and safety	6.3 Occupational Health and Safety	185-192
403-5	Worker training on occupational health and safety	6.3 Occupational Health and Safety	185-192
403-6	Promotion of worker health	6.3 Occupational Health and Safety	185-192
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	6.3 Occupational Health and Safety	185-192
403-8	Workers covered by an occupational health and safety management system	6.3 Occupational Health and Safety Appendix: Social Data – M. Workers Occupational Health and Safety	185-192 254
403-9	Work-related injuries	6.3 Occupational Health and Safety Appendix: Social Data – M. Workers Occupational Health and Safety	185-192 254
403-10	Work-related ill health	6.3 Occupational Health and Safety Appendix: Social Data –M. Workers Occupational Health and Safety	185-192 254
GRI 404: Training and Education 2016			
3-3	Management of material topics	2.2 Sustainability Strategies 2.4 Materiality Assessment and Stakeholder Communication 6.2 Talent Cultivation and Development	24-29 38-52 178-184

GRI Standard	Disclosure	Related Section / Explanatory Notes	Page No.
404-1	Average hours of training per year per employee	6.2 Talent Cultivation and Development	178-184
404-2	Programs for upgrading employee skills and transition assistance programs	6.2 Talent Cultivation and Development ASEH does not provide terminated employees with any continued employability or career transition assistance.	178-184
404-3	Percentage of employees receiving regular performance and career development reviews	6.1 Talent Attraction and Retention	172
GRI 405: Diversity and Equal Opportunity 2016			
3-3	Management of material topics	2.2 Sustainability Strategies 2.4 Materiality Assessment and Stakeholder Communication 6.1 Talent Attraction and Retention - Diversity in Human Resources	24-29 38-52 164-165
405-1	Diversity of governance bodies and employees	3.1 Board of Directors 6.1 Talent Attraction and Retention - Diversity in Human Resources	57 164-165
GRI 408: Child Labor 2016			
3-3	Management of material topics	2.2 Sustainability Strategies 2.4 Materiality Assessment and Stakeholder Communication 3.5 Human Rights Management 7.1 Supply Chain Sustainability Management 7.4 Supply Chain Management Framework - Supplier Sustainability Management Approach	24-29 38-52 74-80 196 207
408-1	Operations and suppliers at significant risk for incidents of child labor	3.5 Human Rights Management 7.1 Supply Chain Sustainability Management 7.4 Supply Chain Management Framework - Supplier Sustainability Management Approach No significant risk of hire child labor and young workers exposed to hazardous work.	74-80 196 207

GRI Standard	Disclosure	Related Section / Explanatory Notes	Page No.
GRI 409: Forced or Compulsory Labor 2016			
3-3	Management of material topics	2.2 Sustainability Strategies 2.4 Materiality Assessment and Stakeholder Communication 3.5 Human Rights Management 7.1 Supply Chain Sustainability Management 7.4 Supply Chain Management Framework – Supplier Sustainability Management Approach	24-29 38-52 74-80 196 207
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	3.5 Human Rights Management 7.1 Supply Chain Sustainability Management 7.4 Supply Chain Management Framework – Supplier Sustainability Management Approach Non-significant risk for incidents of forced or compulsory labor either.	74-80 196 207
GRI 414: Supplier Social Assessment 2016			
3-3	Management of material topics	2.2 Sustainability Strategies 2.4 Materiality Assessment and Stakeholder Communication 7.1 Supply Chain Sustainability Management 7.4 Supply Chain Management Framework - Supplier Sustainability Management Approach 7.5 Supply Chain Sustainability Management Performance	24-29 38-52 196 207 208-211
414-1	New suppliers that were screened using social criteria	3.3 Business Ethics 7.4 Supply Chain Management Framework - Supplier Sustainability Management Approach	62 207
414-2	Negative social impacts in the supply chain and actions taken	7.1 Supply Chain Sustainability Management 7.4 Supply Chain Management Framework - Supplier Sustainability Management Approach 7.5 Supply Chain Sustainability Management Performance	196 207 208-211
GRI 418: Customer Privacy 2016			
3-3	Management of material topics	2.2 Sustainability Strategies 2.4 Materiality Assessment and Stakeholder Communication 3.7 Information Security Management	24-29 38-52 82-87

GRI Standard	Disclosure	Related Section / Explanatory Notes	Page No.
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	3.5 Human Rights Management We don't have any substantiated complaints regarding breaches of customer privacy and losses of customer data in 2023.	74-80
Customized Standard			
Innovation Management and Sustainable Manufacturing			
3-3	Management of material topics	2.2 Sustainability Strategies 2.4 Materiality Assessment and Stakeholder Communication 4.1 R&D and Innovation 4.2 Sustainable Manufacturing	24-29 38-52 89-93 94-98
Customer Relationship Management			
3-3	Management of material topics	2.2 Sustainability Strategies 2.4 Materiality Assessment and Stakeholder Communication 4.3 Products and Services - Customer Service	24-29 38-52 100-101
Information Security Management			
3-3	Management of material topics	2.2 Sustainability Strategies 2.4 Materiality Assessment and Stakeholder Communication 3.7 Information Security Management	24-29 38-52 82-87
Social Involvement			
3-3	Management of material topics	2.2 Sustainability Strategies 2.4 Materiality Assessment and Stakeholder Communication 8. Corporate Citizenship	24-29 38-52 214
Local Communities			
3-3	Management of material topics	2.2 Sustainability Strategies 2.4 Materiality Assessment and Stakeholder Communication 8.1 Social Involvement Overview	24-29 38-52 219-220

Sustainability Accounting Standards Board

SEMICONDUCTORS (Applicable to ASE and SPIL Facilities)

Topic / Code	Accounting Metric	Related Section / Explanatory Notes	Page No.
Greenhouse Gas Emissions			
TC-SC-110a.1.	(1) Gross global Scope 1 emissions and (2) amount of total emissions from perfluorinated compounds	5.2 Energy and Carbon Management	126
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	5.1 Climate leadership 5.2 Energy and Carbon Management- Greenhouse Gas Emissions Management	105-112 126
Energy Management in Manufacturing			
TC-SC-130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	5.2 Energy and Carbon Management- Energy Management Appendix: Sustainability Indicators – SEMICONDUCTORS – No. 1	124 267
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	5.3 Water Stewardship Appendix: Environmental Data - A. Waste, Water, Energy, GHG & Air emission Appendix: Environmental Data - B. The amount of water withdrawals and discharge in water-stressed regions	130-140 241 244
Waste Management			
TC-SC-150a.1	Amount of hazardous waste from manufacturing, percentage recycled	5.4 Circular Resources Appendix: Environmental Data - A. Waste, Water, Energy, GHG & Air emission	142 241
Employee Health & Safety			
TC-SC-320a.1	Description of efforts to assess, monitor, and reduce exposure of employees to human health hazards	6.3 Occupational Health and Safety	185-188
TC-SC-320a.2	Total amount of monetary losses as a result of legal proceedings associated with employee health and safety violations	In 2024, ASEH was fined approximately US$3,064for violating employee health and safety protocols (there were no fines exceeding US$10,000).	-
Recruiting & Managing a Global & Skilled Workforce			
TC-SC-330a.1	Percentage of employees that are (1) foreign nationals and (2) located offshore	3.5 Human Rights Management Appendix: Social data - B. Foreign Employee Taiwan is the registered location of ASEH and the employees of ASEH's facilities outside Taiwan are considered overseas employees. Overseas employees account for 30.6% of the total ASEH employees.	74-80 249
Materials Sourcing			
TC-SC-440a.1	Description of the management of risks associated with the use of critical materials	7.1 Supply Chain Sustainability Management 7.4 Supply Chain Management Framework - Supplier Sustainability Management Approach 7.5 Supply Chain Sustainability Management Performance	196 207 208-211
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	In 2024, ASEH did not suffer any financial losses from violating anti-competitive regulations.	-
Product Lifecycle Management			
TC-SC-410a.1	Percentage of products by revenue that contain IEC 62474 declarable substances	18% Taking ASEH's 2024 revenue as the denominator	-

ELECTRONIC MANUFACTURING SERVICES & ORIGINAL DESIGN MANUFACTURING (Applicable to USI Facilities)

Topic / Code	Accounting Metric	Related Section / Explanatory Notes	Page No.
Water Management			
TC-ES-140a.1	(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	5.3 Water Stewardship Appendix: Environmental Data - A. Waste, Water, Energy, GHG & Air emission Appendix: Environmental Data - B. The amount of water withdrawals and discharge in water-stressed regions	130-140 241 244
Waste Management			
TC-ES-150a.1	Amount of hazardous waste from manufacturing, percentage recycled	5.4 Circular Resources Appendix: Environmental Data - A. Waste, Water, Energy, GHG & Air emission	142 241
Labor Practices			
TC-ES-310a.1	(1) Number of work stoppages and (2) total days idle	In 2024, there were no incidents that resulted in a shutdown at USI.	-
Materials Sourcing			
TC-ES-440a.1	Description of the management of risks associated with the use of critical materials	7.1 Supply Chain Sustainability Management 7.4 Supply Chain Management Framework - Supplier Sustainability Management Approach 7.5 Supply Chain Sustainability Management Performance	196 207 208-211
Activity Metrics			
TC-ES-000.C	Number of employees	Total number of USI employees is 15,612	-

Sustainability Indicators — SEMICONDUCTORS

No.	Indicators	Disclosure
1	Total energy consumption, percentage of purchased electricity, utilization rate (renewable energy)	In 2024, total energy consumption was 16,058,499 GJ, with grid (imported) electricity accounting for 79.29% of the total consumption and renewable energies accounting for 18.48 %
2	Total Water r withdrawal and Total Water Consumption	In 2024, total water withdrawals amounted to 21,886,295 m^3, and total water consumption amounted to 6,014,921 m^3
3	The weight and recycling percentage of hazardous waste generated	In 2024, total hazardous waste was produced to 22,497 tons, and the recycling rate was 81%
4	The type, number and rate of occupational incidents	Category of Occupational Injuries in 2024: 1. Number of Physical Injuries: 82peoples (88%) 2. Number of Chemical Injuries: 5 peoples (5%) 3. Number of Ergonomic Injuries: 6 peoples (7%) 4. Number of Biological Injuries: 0 people (0%) 5. Number of Psychosocial Injuries: 0 people (0%)
5	Disclosure of product life cycle management: including the weight of scraped products and e-waste and the percentage of recycling	In 2024, the weight of end-of-life products and e-waste were 641 tons, and the recycling rate was 1%
6	Risk management regarding the use of critical materials	Please refer to 7.5 Supply Chain Sustainability Management
7	Total amount of monetary losses as a result of legal proceedings associated with anticompetitive behavior regulations	In 2024, ASEH did not suffer any financial losses from violating anti-competitive regulations
8	Yield of main products by product category	1. Semiconductor Assembly (packaging), Testing and Materials (ATM): 37,790,855 kpcs 2. Electronic Manufacturing Service (EMS): 922,541 kpcs

TCFD Index

Dimension	General industry index (2021 edition)	Comparing Section
Governance	(a) The board's oversight of climate-related risks and opportunities.	3.1 Board of Directors 3.4 Risk Management 5.1.2 Climate Risk Management
	(b) Management's role in assessing and managing climate-related risks and opportunities.	3.4 Risk Management 5.1.2 Climate Risk Management
Strategy	(a) The climate-related risks and opportunities the organization has identified over the short, medium, and long term.	5.1.2 Climate Risk Management 5.3.2 Risk and Opportunity Management
	(b) The impact of climate related risks and opportunities on the organization's businesses, strategy, and financial planning.	5.1.2 Climate Risk Management 5.3.2 Risk and Opportunity Management
	(c) The resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2° C or lower scenario.	5.1.2 Climate Risk Management 5.3.2 Risk and Opportunity Management
Risk Management	(a) The organization's processes for identifying and assessing climate-related risks.	5.1.2 Climate Risk Management
	(b) The organization's processes for managing climate-related risks.	5.1.2 Climate Risk Management
	(c) How processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	5.1.2 Climate Risk Management
Metrics and Targets	(a) The metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	5.1.2 Climate Risk Management
	(b) Scope1, Scope2 , and if appropriate, scope3 greenhouse gas (GHG) emissions and the related risks.	5.2.2 Greenhouse Gas Emissions Management
	(c) The targets used by the organization to manage climate-related risks and opportunities and performance against targets.	5.1.3 Metrics and Targets 5.1.4 Net-Zero Actions

TNFD Index

Dimension	General industry index (2021 edition)	Comparing Section
Governance	(a) The board's oversight of nature-related dependencies, impacts, risks and opportunities.	3.1 Board of Directors 3.4 Risk Management 5.7 Biodiversity-Risk assessment
	(b) Management's role in assessing and managing nature-related dependencies, impacts, risks and opportunities.	3.4 Risk Management 5.7 Biodiversity-Risk assessment
	(c) Describe the organisation's human rights policies and engagement activities, and oversight by the board and management, with respect to Indigenous Peoples, Local Communities, affected and other stakeholders, in the organisation's assessment of, and response to, nature related dependencies, impacts, risks and opportunities.	NA
Strategy	(a) The nature-related dependencies, impacts, risks and opportunities the organisation has identified over the short, medium and long term.	5.7 Biodiversity-Evaluating Nature-related Dependencies and Impacts 5.7 Biodiversity-Major Nature-related Risk and Opportunity Metrics
	(b) The effect nature-related risks and opportunities have had on the organisation's business model, strategy and financial planning, as well as any transition plans or analysis in place.	5.7 Biodiversity-Major Nature-related Risk and Opportunity Metrics
	(c) Describe the resilience of the organisation's strategy to nature-related risks and opportunities, taking into consideration different scenarios.	NA
	(d) Disclose the locations of assets and/or activities in the organisation's direct operations and, where possible, upstream and downstream value chain(s) that meet the criteria for priority locations.	5.7 Biodiversity-Overlay Analysis of Natural and Biodiversity Hotspots 5.7 Biodiversity-Supply Chain Environmental Risk Analysis
Risk and impact Management	(a-1) Describe the organisation's processes for identifying, assessing and prioritising nature related dependencies, impacts, risks and opportunities in its direct operations. (a-2) Describe the organisation's processes for identifying, assessing and prioritising nature-related dependencies, impacts, risks and opportunities in its upstream and downstream value chain(s).	5.7 Biodiversity-Risk assessment
	(b) Describe the organisation's processes for managing nature-related dependencies, impacts, risksand opportunities.	5.7 Biodiversity-Risk assessment 5.7 Biodiversity-Potentially Disappeared Fraction of species 5.7 Biodiversity-Implementation Actions
	(c) Describe how processes for identifying, assessing, prioritising and monitoring nature-related risks are integrated into and inform the organisation's overall risk management processes.	5.7 Biodiversity-Risk assessment
Metrics and Targets	(a) The metrics used b y the organisation to assess and manage material nature-related risks and opportunities in line with its strategy and risk management process.	5.7 Biodiversity-Major Nature-related Risk and Opportunity Metrics
	(b) The metrics used by the organisation to assess and manage dependencies and impacts on nature.	5.7 Biodiversity-Major Nature-related Risk and Opportunity Metrics
	(c) Describe the targets and goals used by the organization to manage nature-related dependencies, impacts, risks and opportunities and its performance	5.7 Biodiversity-Major Nature-related Risk and Opportunity Metrics 5.7 Biodiversity-Potentially Disappeared Fraction of species 5.7 Biodiversity-Implementation Actions

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