ASE HOLDINGS

TWSE: 3711
NYSE: ASX

2023 ASE HOLDINGS SUSTAINABILITY REPORT

Low Carbon

Circular

Committed to a Win-Win Sustainable Future

As a leading provider of semiconductor packaging and test, ASE Technology Holding Co., Ltd. and its subsidiaries (collectively ASEH) are fully committed to growing their core business and strengthening research and development. The company advances its corporate sustainability strategy through a framework of four pillars: Low Carbon, Circular, Inclusive and Collaborative. In 2023, ASEH continued its transformation in sustainable development and smart manufacturing by integrating a range of Industry 4.0 advanced technologies and artificial intelligence (AI) into its operations. Additionally, ASEH conducted comprehensive nature-related risk assessments for its major facilities worldwide. The TNFD-LEAP method was used to assess the company's dependence on natural resources, as well as the associated impacts, risks, and opportunities. ASEH also organized social innovation competitions to create models for collaboration with startup teams. Championing a people-centric philosophy, ASEH demonstrated its commitment to workplace safety by publishing the "White Paper on Packaging and Testing Machine Safety", a first for the semiconductor packaging and testing industry. To fulfill our ESG responsibilities and establish a positive influence, we will continue to form meaningful partnerships to protect this earth and pursue Net Zero goals in alignment with industry and social trends.

ASEH strongly believes in "Embracing Green Energy and Protecting the Future". Environmental sustainability is a shared goal for businesses worldwide. As a leading provider of semiconductor packaging and test, ASEH remains steadfast in its dedication to green power, low-carbon energy transformation, and smart management, aiming to create a resilient and green circular value chain for a more sustainable planet.

Collaborative

Inclusive

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White Paper on Packaging and Testing Machine Safety in a Smart and Sustainable Factory

As a newly inducted member of the globally recognized WEF Global Lighthouse Network (GLN), ASE Kaohsiung is deeply committed to continuing its dual-axis transformation that integrates smart manufacturing and sustainable development. This is achieved by seamlessly incorporating cutting-edge AI and other advanced Industry 4.0 technologies into daily operations, harmonizing production optimization with environmental sustainability. In the realm of smart manufacturing, smart scheduling is implemented to replace manual labor, significantly improving efficiency and reducing product manufacturing cycles. AI image recognition, machine learning, large language models, and feature engineering technology are utilized in process control and management to generate early warnings on equipment anomalies and predicting equipment lifespan, ensuring peak yield rates, reduced processing time, and risk mitigation. In sustainable development, AI-enhanced smart energy management is implemented to efficiently adjust manufacturing equipment according to environmental conditions and production requirements. In addition, we employ collaborative AI computations to optimize water operations and increase water recycling, thereby reducing water consumption. Through partnerships, we optimize waste resource utilization in alignment with the circular economy model, ensuring appropriate waste removal without environment impacts by using AI tools to monitor waste transport vehicle operations. As a people-centric organization, ASEH prioritizes a safe, secure, and healthy workplace environment. In collaboration with our facilities, subsidiaries, and 6 industry peers, we spearheaded the inaugural White Paper on Packaging and Testing Machine Safety in 2023, targeting the semiconductor packaging and test sector. To identify safety risks in machinery and design, the white paper delved into domestic and international safety standards and collaborated with industry, government, and academic stakeholders to identify occupational hazards and propose preventative measures. The paper addresses human, machine and environmental factors and focuses on safer design and ergonomic hazard prevention to enable a culture of workplace safety and employee well-being.

Biodiversity Conservation

To implement the company's Biodiversity and No Deforestation Policy, ASEH directed its subsidiaries to conduct nature-related risk assessments at major manufacturing facilities worldwide. Utilizing the TNFD-LEAP model, we identified the company's dependence and impact on nature, assessed the corresponding risks and opportunities, formulated response strategies, and ensured transparency by publishing the Climate and Environmental Report. In alignment with the Kunming-Montreal Global Biodiversity Framework's goal of restoring at least 30% of the terrestrial ecosystems, we adopted mitigation hierarchy measures to comply with regulatory requirements and minimize environmental impact during the construction of a new facility for SPIL, in the Huwei Science Park. Acknowledging that some land use impacts cannot be entirely avoided or mitigated, SPIL is collaborating with the Central Taiwan Science Park Administration Bureau (CTSP) and ecological experts to adopt the adjacent parkland; Park No. 5. This initiative aims to restore biodiversity by planting indigenous plants and creating an environment that is beneficial for the community's physical and mental well-being.

Aimed at achieving the Net Positive Impact (NPI) policy goals and boosting local cultural and social value, Park No. 5 will be transformed into a model project that combines ecological restoration with social benefits, and facilitates off-site compensation for the environmental impact caused by SPIL. The CTSP has approved the ecological restoration strategy and construction of the ecological model park is scheduled to commence in 2024.

Major sustainability accomplishments in 2023

Social Innovation Talent Development and Long-Term Care

ASEH continues to champion social innovation through the organizing of various competitions. In 2023, we solicited collaboration proposals from the public, providing resources, consultation, and subsidies to prospective participants, and assisted winning teams in developing innovative business operation models. Through active engagement, we leverage ASEH's resources to create synergies that amplify the impact of our collective efforts. Our initiatives aim to generate sustainable benefits for our business, the environment, and society. Participants were encouraged to focus on themes such as energy conservation and low carbon, the circular economy, social welfare, and environmental protection. In addition to cash prizes, we pledged to work closely with the winning teams to advance environmental and social development goals. Since the conclusion of the 2022 ASE Women's Sustainable Innovation Talent Cultivation Competition, we have been continuously providing support and monitoring the progress of the 10 winning teams. Together with industry-academia experts, we offered practical guidance on operating a business as well as explored cooperation opportunities with the winning teams to develop innovative business models.

ASEH is fully dedicated to promoting social inclusion. In 2023, we actively supported senior long-term care services through a three-year program on active aging in partnership with several organizations including the Chang Yao Hong-Ying Social Welfare & Charity Foundation, and the Kaohsiung City Government. As part of the program, a well-equipped mobile gym that travels to designated locations around Kaohsiung was launched to provide greater convenience and easier access for the elderly. This not only reduces the travel time and distance for the elderly to engage in physical activity, it also promotes an active and joyful lifestyle that slows aging.

Towards Net-Zero

In alignment with the SBTi net-zero goal, ASEH established a robust carbon reduction strategy focused on low-carbon products, as well as action plans that encompass investments in carbon credits, renewable energy, low-carbon transportation, and supply chain engagement. Our three major subsidiary groups will also actively increase the implementation of internal carbon pricing which further enhances our carbon reduction efforts. Recognizing the importance of driving the value chain's transformation towards carbon reduction, we remain committed in our efforts to pave the way for the industry supply chain. Our objective is to achieve positive global impacts through initiatives such as technical cooperation with international clients and supporting local suppliers in enhancing their carbon management practices.

The ASE Environmental Protection and Sustainability Foundation is dedicated to promoting and implementing initiatives that advance environmental sustainability, guided by the company's four sustainable development indicators: Low-carbon, Circular, Inclusive, and Collaborative. As the significance of carbon inventory continues to rise amidst global ESG trends, the accuracy and reliability of inventory data are key to meeting international net-zero regulatory standards and customer expectations.

To mitigate the impacts of climate change, we have developed plans to establish the Carbon Verification Center, that will provide GHG verification services. The mission of the centre is to enhance the quality of Taiwan's industry GHG inventory data, which will allow better identification of potential areas for improvement and the launching of reduction initiatives. We are hopeful that meaningful industry collaboration in this initiative will accelerate Taiwan's journey towards net zero and create a more sustainable environment for all.

2023 Awards and Recognitions

Member of
Dow Jones Sustainability Indices
Powered by the S&P Global CSA

Industry Leader

Named Industry Leader in the 2016-2023 Dow Jones Sustainability Indices and listed as a constituent of the Dow Jones Sustainability World Index and Emerging Markets Index

Top 1%

S&P Global Corporate Sustainability Assessment (CSA) Score 2023

Top 1% S&P Global ESG Score

Listed on the S&P Global Sustainability Yearbook 2017-2024 and awarded the "Gold Class" for eight consecutive years; ranked within top 1% among the best performing companies under the Semiconductors and Semiconductor Equipment Industry Group

TCSA

13 Awards

2023 Taiwan Corporate Sustainability Awards Executive Committee (TCSA): Top 100 Domestic Companies Sustainability Model Award, Corporate Sustainability Report Award (Platinum), Talent Development Leadership Award, Climate Leadership Award, Social Inclusion Leadership Award, Growth through Innovation Leadership Award, Supply Chain Sustainability Leadership Award and Workplace Wellbeing Leadership Award

Global Corporate Sustainability Awards (GCSA): Sustainability Reporting Silver Award

Taiwan Sustainability Action Awards (TSAA): Circular Economy and Sustainable Manufacturing Gold Award (SDG 12), Digital Transformation and Sustainable Manufacturing Gold Award (SDG 9), and Ten-Year Taiwan Ocean Protection Plan Gold Award (SDG 14)

Taiwan Biodiversity Awards (TWBA): Bronze Award

CDP
DISCLOSURE INSIGHT ACTION

Triple Leadership Status

- Maintained leadership ranking on climate change for eight consecutive years
- Rated "A" in Supplier Engagement Rating for five consecutive years
- Recognized on the water security A List for four consecutive years

FTSE4Good TIP Taiwan ESG Index

7 Consecutive Years

Listed on the 2017-2023 FTSE4Good TIP Taiwan ESG Index, developed by FTSE4Good in partnership with Taiwan Index Plus Corp. (TIP), a Taiwan Stock Exchange's (TWSE) wholly-owned subsidiary

MSCI ESG RATINGS
CCC | B | BB | BBB | A | AA | AAA

Rated Again

Rated MSCI ESG "A" for the year 2023

Best ranking achieved

Received Rookie Award for Large Enterprises, Family-Friendly Workplace Award, and Top 100 corporations in the Excellence in Corporate Social Responsibility Award for the year of 2023

FTSE4Good

9 Years in a Row

Listed in the 2023 FTSE4GOOD Emerging Markets Index for the year of 2023

Corporate ESG Performance Prime
RATED BY ISS ESG

Prime Status

Awarded ISS ESG Prime status for outstanding corporate sustainability performance

ABOUT OUR REPORTING

This is our 6th Sustainability Report for ASEH. This report has been prepared in accordance with the GRI Standards and SASB Standards. Corporate CSR Division is in charge of data gathering, compiling and editing. This report is available in both Chinese and English. The complete electronic version can be downloaded from our website. https://www.aseglobal.com/csr/csr-download/

If you have any comments or suggestions regarding this report, please contact us at:

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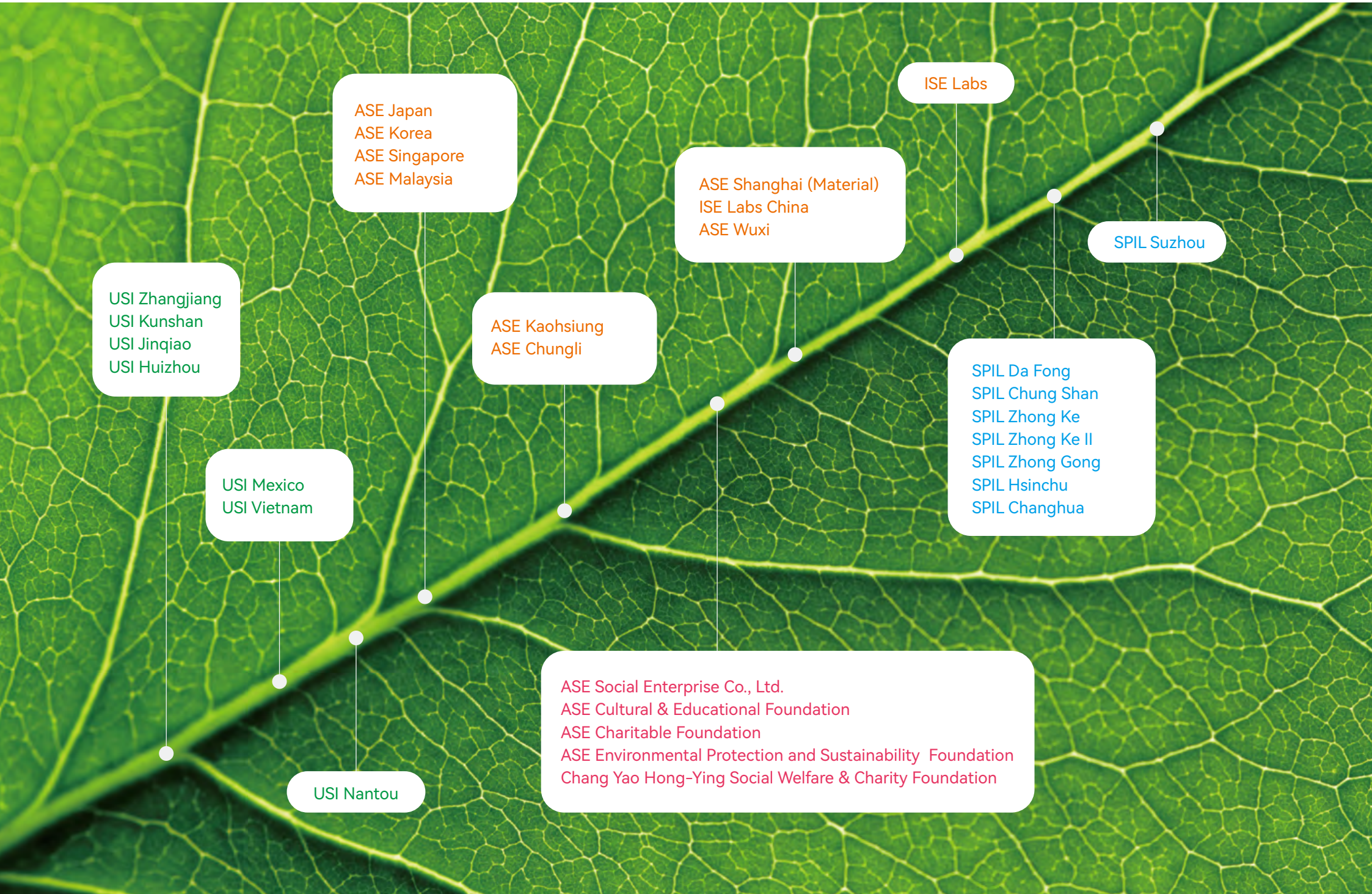
ESG Website: https://www.aseglobal.com/csr/

Report Boundary

The report discloses the economic, environmental and social performance of the ASE (Advanced Semiconductor Engineering, Inc. and its subsidiaries), SPIL (Siliconware Precision Industries Co., Ltd. and its subsidiaries), and USI (USI Inc. and its subsidiaries). The scope of this report includes:

ASE Facilities: Kaohsiung, Chungli, Wuxi, Shanghai (Material), ISE labs China, Japan, Korea, Singapore, Malaysia and ISE Labs
SPIL Facilities: Da Fong, Chung Shan, Zhong Ke, Zhong Ke II, Zhong Gong, Hsinchu, Changhua and Suzhou
USI Facilities: Nantou, Zhangjiang, Kunshan, Jinqiao, Huizhou, Mexico and Vietnam

Any boundary adjustment made to the scope of data will be separately explained in the text of the report. Financial figures in this report are prepared in accordance with international standards and domestic regulations approved and promulgated by the Financial Supervisory Commission (FSC), including International Financial Reporting Standards (IFRS), International Accounting Standards (IASs), and the interpretations and statements of Standing Interpretations Committee (SIC) and International Financial Reporting Interpretations Committee (IFRSIC) adopted by the International Accounting Standards Board (IASB), as well as the Regulations Governing the Preparation of Financial Reports by Securities Issuers, and are audited by Deloitte & Touche. All figures are presented in US dollars unless otherwise specified.


ASE Japan
ASE Korea
ASE Singapore
ASE Malaysia
ISE Labs
ASE Shanghai (Material)
ISE Labs China
ASE Wuxi
SPIL Suzhou
USI Zhangjiang
USI Kunshan
USI Jinqiao
USI Huizhou
ASE Kaohsiung
ASE Chungli
SPIL Da Fong
SPIL Chung Shan
SPIL Zhong Ke
SPIL Zhong Ke II
SPIL Zhong Gong
SPIL Hsinchu
SPIL Changhua
USI Mexico
USI Vietnam
ASE Social Enterprise Co., Ltd.
ASE Cultural & Educational Foundation
ASE Charitable Foundation
ASE Environmental Protection and Sustainability Foundation
Chang Yao Hong-Ying Social Welfare & Charity Foundation
USI Nantou

Internal Review and Approval

The disclosed information and data in this report were initially verified by the relevant managers of the data/information providers. The initial draft was compiled by the Corporate CSR Division. After being reviewed by the Corporate Finance and Regulatory Compliance Departments, the final report was approved and authorized for issue by the Chairman of Corporate Sustainability Committee.

Other ESG/Sustainability Reports in ASEH

Within the ASEH, we have also published four separate Sustainability reports providing more detailed sustainability information of our ASE Kaohsiung and Chungli Facilities in Taiwan, SPIL and USI. The complete electronic version can be downloaded from https://www.aseglobal.com/csr-download

ASE Kaohsiung · Sustainability Report

ASE Chungli · Sustainability Report

SPIL · Sustainability Report

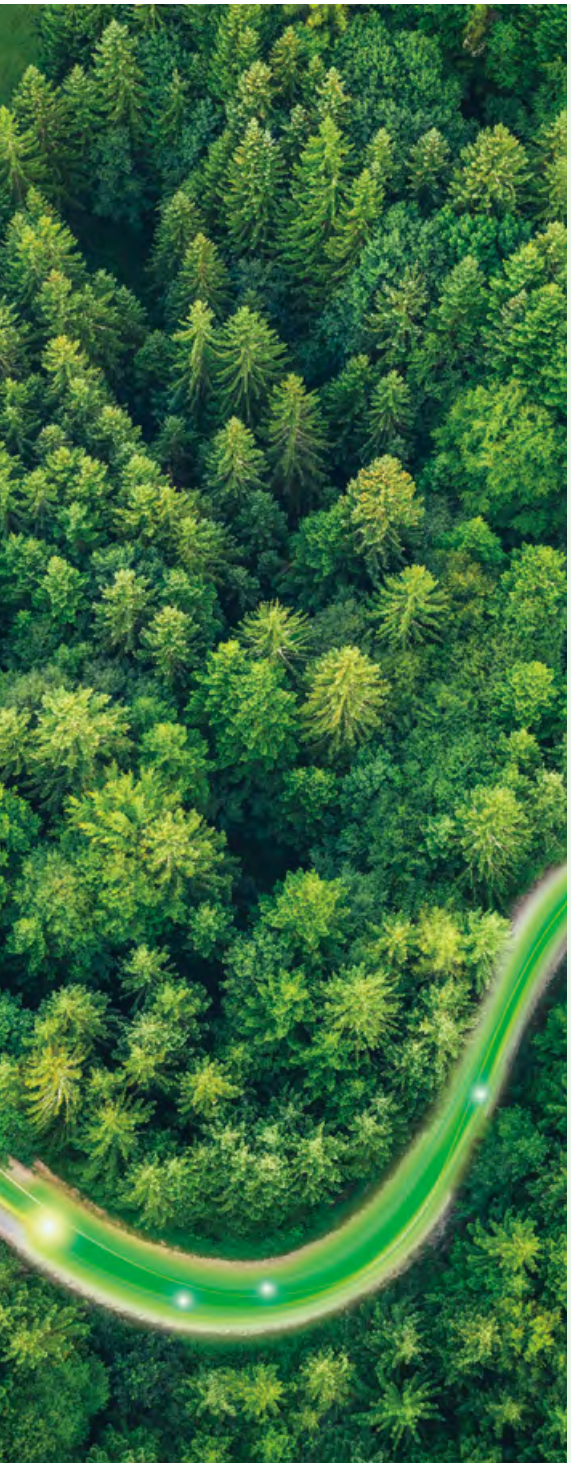
USI · Sustainability Report

External Assurance

In accordance with the ISAE 3000 (Revised), ASEH engaged Deloitte & Touche to perform a limited assurance engagement on this report that reflected disclosures presented in accordance with the GRI Standards, SASB Standards, and Taiwan Stock Exchange Corporation Rules Governing the Preparation and Filing of Sustainability Reports by TWSE Listed Companies. All ASEH sites have acquired certifications in environmental, social, information security and other relevant fields. The company's conformity with international standards ensures complete regulatory compliance in our management and control measures, and operating procedures. For more information, please refer to the chart on next page:

Facility \ Certification	ISO 14001 Environmental Management System	ISO 22301 Business Continuity Management Systems	ISO 50001 Energy Management Systems	ISO 46001 Water Efficiency Management Systems	ISO 14064-1 Greenhouse Gases	QC 080000 Hazardous Substance Process Management System	ISO 45001 Occupational Health and Safety Management Systems	ISO/IEC 27001 Information Security Management Systems	Global Lighthouse Network
ASE Kaohsiung	V	V	V	V	V	V	V	V	V
ASE Chungli	V		V	V	V	V	V	V	
ASE Wuxi	V				V	V	V		
ASE Shanghai (Material)	V				V	V	V	V	
ISE Labs China	V				V	NA[2]	V		
ASE Japan	V				V	V			
ASE Korea	V				V	V	V		
ASE Singapore	V				V	V	V		
ASE Malaysia	V				V	V			
ISE Labs	V				V	NA[2]			
SPIL Da Fong	V	V	V		V	V	V	V	
SPIL Chung Shan	V	V	V		V	V	V	V	
SPIL Zhong Ke	V	V	V	V	V	V	V	V	
SPIL Zhong Ke II	V		NA[1]		V	NA[1]	V	V	
SPIL Hsinchu	V	V	V		V	V	V	V	
SPIL Changhua	V	V	V		V	V	V	V	
SPIL Suzhou	V	V	V		V	V	V	V	
SPIL Zhong Gong	V	V	V		V	NA[2]	V		
USI Nantou	V	V	V		V	V	V	V	
USI Zhangjiang	V		V		V	V	V		
USI Kunshan	V		V		V	V	V		
USI Jinqiao	V		V		V	V	V		
USI Huizhou	V		V		V	V	V		
USI Mexico	V		V		V	V	V		
USI Vietnam	V		V		V	V	V		

[1] The newly built facility of SPIL Zhong Ke II is scheduled to obtain QC 080000 certification in August 2024, followed by ISO 50001 certification in October 2024
[2] QC 080000 is not applicable to ISE Labs China, ISE Labs and SPIL Zhong Gong, as these are pure testing facilities and do not engage in any manufacturing of products



Letter from the Chairman

The 2023 United Nations Climate Change Conference (COP 28) concluded with an unanimous agreement that climate transition must be accelerated to fulfill the Paris Agreement targets of keeping global temperature rise well below 1.5℃. For that to happen, it is necessary to achieve a 43% annual reduction in global greenhouse gas emissions by 2030 compared with 2019 levels. Adding to the immense climate challenges, the global economy has yet to recover fully from the pandemic due to various factors including destocking, geopolitical and inflationary impacts. Despite the adverse environment, ASEH remains proactive and optimistic, and determined to transform crises to opportunities. We are deeply committed to applying the four pillars of our sustainability strategy - Low Carbon, Circular, Inclusive, and Collaborative, and leveraging on the semiconductor value chain to develop more efficient AIoT environments and devices that will enable generations to enjoy a smarter and more sustainable lifestyle.

Low Carbon Transition and Pursuing Responsible and Sustainable Developments

In alignment with the call to reaching net zero emissions by 2050, we have developed five strategic action plans - investments in carbon credits, renewable energy, low-carbon transportation, low-carbon products, and supply chain engagement. These plans are formulated in accordance with the reduction pathway guidelines of the Science-Based Targets Initiative (SBTi). We have developed a Renewable Energy Platform that will drive our subsidiaries to increase the use of renewable energy through energy self-sufficiency, power purchase agreements, and renewable energy certificates (RECs). In 2023, 84% of ASEH's facilities worldwide used renewable energy or RECs, accounting for 20% of the company's total electricity consumption. Of which, 12 of ASEH's facilities have achieved RE100. The actions taken by all our subsidiaries have resulted in a reduction of 603,327 tCO_2e.

Besides climate change, we are also deeply focused on biodiversity conservation. ASEH has adopted the Kunming-Montreal Global Biodiversity Framework to draft the Biodiversity and No Deforestation Policy in 2023, serving as a guidance for the company's conservation efforts. We are continuously conducting assessments on the nature-related risks of our global facilities, and developing counterstrategies from the identification of all nature-related dependencies, impacts, risks, and opportunities associated with our operations. On top of that, we're taking steps to incorporate nature related risks and opportunities into our overall strategic planning by adopting the Taskforce on Climate-Related Financial Disclosures (TCFD) and Taskforce on Nature-Related Financial Disclosures (TNFD) frameworks, and publishing our Climate and Environmental Report to disclose our actions for climate change and biodiversity.

Building Climate Resilience with a Circular Economy

Without doubt, the earth's climate changes are triggering heavier rainfall, worsening drought, and other extreme weather events. These developments have a huge impact on our business operations. In order to strengthen the company's resilience, we have consistently formulated comprehensive adaptation strategies including the opening of Taiwan's first industrial wastewater recycling plant at ASE Kaohsiung in 2015. Since then, we have successively established water recycling plants at our other facilities in ASE Chungli, ASE Malaysia, and ASE Singapore to treat and purify wastewater for reuse. These recycling plants have helped convert nearly 80% of wastewater from our production processes for reuse, greatly reducing our water consumption and strengthening our facilities' capabilities in mitigating potential water disruptions resulting from extreme weather. In 2023, we formulated the Water Resource Management Policy as a guide for all subsidiaries to implement and manage water conservation, water recycling, and water contamination. For the year 2023, we recorded an annual cumulative water savings of 1.28 million metric tons.

The United Nations has set an ambition to complete negotiations on a Global Plastics Treaty by the end of 2024. The treaty aims to ensure that businesses gradually reduce the volume of plastics used, and consequentially lower the environmental impact of plastic waste. In response, ASEH has adopted the circular economy approach to address the potential transition risks generated from this development. In 2022, ASE Kaohsiung established the Plastic

Recycling Center to convert waste plastic into usable products. After a year of hard work, we successfully increased our productization ratio from 40% to 91%. Another of our subsidiary, USI, conducted a similar program of recycling plastics and in 2023, 16.72% of their products were made using recycled plastics. Overall, our subsidiaries have achieved a waste recycling rate of more than 90% over the years.

Driving Service Innovation through Digital and Sustainability Transformation

As a technology company, fostering innovation fuels our growth and enables us to provide strategic value to the industry. Over the years, we have accelerated our developments in smart automation and building smart factories. We deploy smart manufacturing and AI to optimize production scheduling and process parameters, and perform preemptive machine maintenance and troubleshooting that drive cost minimization and yield maximization. Today, we have established a total of 46 smart factories which is a strong testament of our commitment to sustainability through digital transformation.

The cornerstones of ASEH's sustainability development involve conserving and reducing energy and water usage, and minimizing waste output. To optimize energy usage across our facilities, we adopted the use of AI in smart energy management to conduct comprehensive data collection and automatic monitoring based on optimal parameters. Our water resources are managed through the use of fluorescence detection techniques which monitors the quality of post-process discharged water. We employ AI algorithms to optimize water production processes, avoid unnecessary waste of water resources, and increase the quantity of recycled water. We transform waste into resources using a circular economy model through multi-party collaboration. To effectively mitigate the environmental impact of waste materials, the management process for non-recyclable waste has been fully digitized, including AI-powered monitoring of waste disposal vehicles to ensure proper disposal.

Jason C.S. Chang
Chairman

Our employees are key to the success of ASEH's dual-axis transformation in smart manufacturing and sustainable development. We are focused on enhancing our employees' technical skills to create value, and building smart and advanced factories to support our net zero commitment and our corporate vision of living in harmony with the environment. In parallel, the induction of ASE Kaohsiung's wafer bumping factory into the World Economic Forum Global Lighthouse Network (WEF GLN) was a significant recognition of ASEH's achievements in sustainable manufacturing.

Building a Diverse and Inclusive Workplace

Hiring and retaining the right talent, as well as talent placement are key to the continuous growth of a company. Given the diversity of our customer base and market demands, ASEH maintains 25 operational sites across 9 countries, with employees of 18 different nationalities supporting our global operations and providing a competitive edge. We endeavor to build an open workplace that embraces diversity, equity, and inclusion (DEI), thus enabling employees to grow and foster mutual respect. We offer competitive salaries and benefits, such as 10 weeks of paid maternity leave for employees at ASE Kaohsiung and ASE Chungli and 10 days of paternity leave and paternity check-up leave (introduced in 2023), both of which exceed the mandatory requirements.

Employees' opinions are of utmost importance to us. In 2023, we conducted another round of the Employee Engagement Survey exploring emerging issues including Sustainable Engagement, Retention, and ESG, and adding two new categories on DEI and Employee Well-being. The survey covered 95.1% of total employees working at ASEH and its subsidiaries. We cherish employees' genuine feedback and use it as the basis for improving our work environment and management approaches. In 2023, ASEH was honored with the National Talent Development Award from the Ministry of Labor. Awards and recognition motivate us further in developing every employee's growth and loyalty within the company, and powering ASEH's advancements in sustainability.

Creating Value and Sustainable Collaboration with Suppliers

As a leading provider of semiconductor packaging and test services, ASEH has a responsibility to work with its suppliers to combat climate change

challenges. We have developed an overarching supply chain management framework for sustainable development, and to co-create greater sustainable value. Our suppliers must comply with all laws and regulations related to human rights, health and safety, environmental protection, and business ethics. In parallel, we also conduct sustainability risk assessments through questionnaires and onsite audits to ensure that our suppliers' actions and policies are socially responsible and in accordance with our sustainability goals. For suppliers that fall short of our expectations, we provide our expertise and support to get them back on track. Where necessary, we may remove suppliers from our procurement list to prevent any negative environmental or social impact to the supply chain.

We are also deeply committed to expanding our supplier engagement to generate positive impacts and accelerate our sustainability achievements. In pursuit of our net zero goals, we have an ongoing program that helps suppliers conduct carbon inventory, identify emission hotspots in their operational processes, and formulate plans to reduce carbon footprint. We have also designed innovative programs to drive greater supplier collaboration. In 2023, we organized another competition for the Supplier Sustainability Awards, encouraging suppliers to submit project proposals based on the four sustainability pillars of ASEH. Our supplier communication on sustainability value and principles is all encompassing and systematic, and includes the organizing of forums, multi-dimensional sustainability projects and various educational and training programs. While building a robust bilateral communication mechanism, we are also continuously exploring collaboration opportunities in sustainability to jointly create a net zero supply ecosystem across the industry.

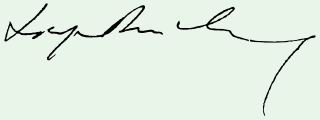
Generating Positive Influence through Social Inclusion for the Common Good

Addressing social issues and promoting social inclusion continue to top our ESG agenda. Our afforestation program is an ongoing effort and in 2023, our total afforestation area covered 31.68 hectares, marking a significant progress towards our goal of 249.27 hectares. Over the years, our afforestation efforts have resulted in a cumulative carbon sink of 9,370.52 tCO_2e as per the UN IPCC carbon sink methodology. At the same time, our Campus LED Project, now entering its 10th year, has completed the installation of 161,261 LED tube lights at 155 elementary and junior high schools in rural areas and communities surrounding ASE's facilities. Besides protecting schoolchildren's eyesight, the project has also helped save 16,531,800 kWh of electricity and reduced 8,465 tCO_2e over the years.

For an enterprise to thrive and prosper, rallying the support of the community is crucial. At ASEH, we have developed programs like the 2023 ASEH Social Innovation Competition that focused on energy conservation and carbon reduction, circular economy, social welfare, and environmental protection. The 3 winning teams were selected based on their innovative ideas in sustainability, and they were awarded cash prizes as well as an opportunity to partner with ASE on their proposals. We remain highly supportive of social enterprises in identifying new business opportunities, and balancing sustainable development to help solve societal problems.

Shaping a Sustainable Future

Amidst a rapidly evolving landscape of disruptive technologies and sustainability transformation, we firmly believe in Tech for Good and the prospects of creating a better tomorrow. Innovation is our core value, and our goal is to create high value-added solutions, enhance our efficiency, and foster talent to address the needs of an increasingly complex and dynamic market. The semiconductor industry is expected to flourish due to its boundless potential and with that, comes greater corporate social responsibility. As a key player in the semiconductor eco-system, ASEH is determined to sharpen our focus on ESG, and attain a balance between the company's operational and ESG targets. Leveraging on the critical role of semiconductors and our capability to provide innovative technologies, we will continue to partner with different industry sectors, the government, academia, stakeholders, and the public to ignite positive changes, and shape a brighter and truly sustainable future.

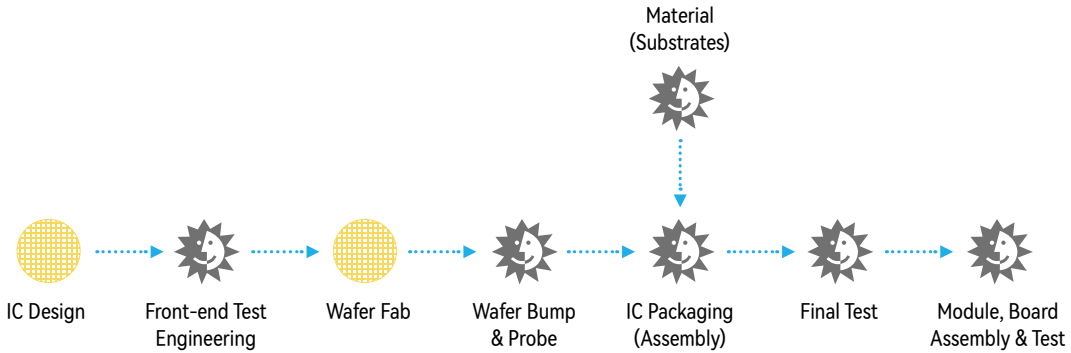


Richard H.P. Chang
Vice Chairman and President

OPERATING MODEL

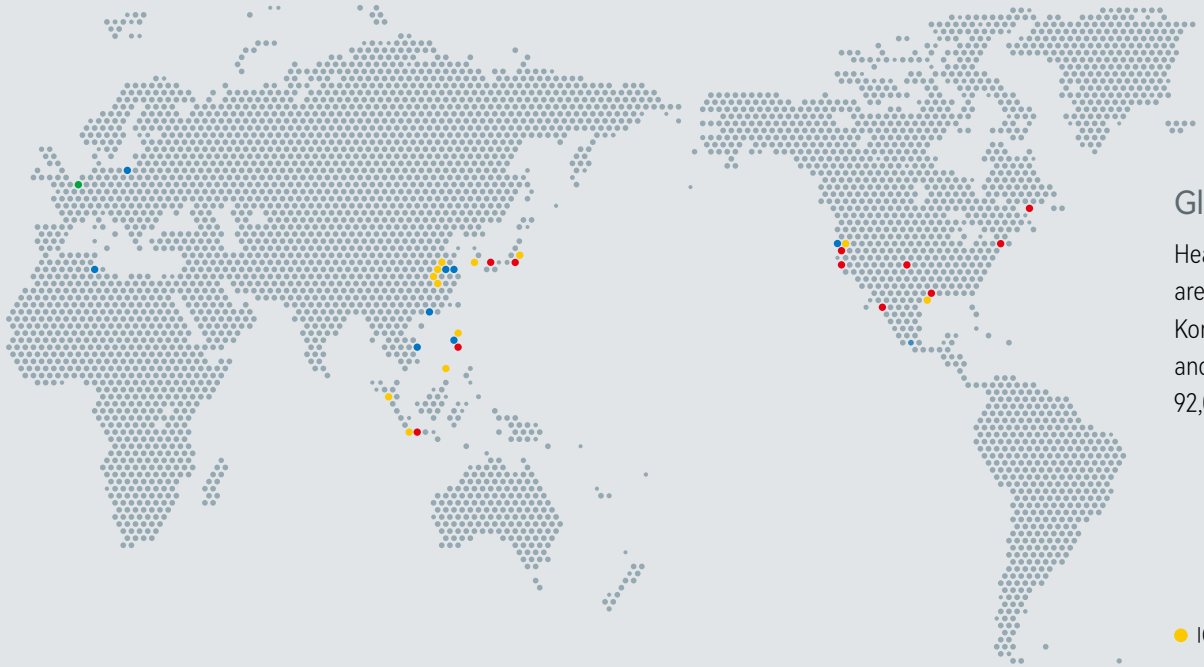
1.1 Company Profile

ASE Technology Holding Co., Ltd. (“ASEH”) (TWSE: 3711; NYSE: ASX), established in April 2018 and its subsidiaries include ASE, SPIL and USI. ASEH's mission is to create a business model that combines the strengths of member companies to enhance research and development, increase the level of competitiveness, develop an integrated supply chain and expand our global market footprint. Our structure enables us to innovate and develop miniaturized, high performance and highly integrated services for customers to increase the speed to market for their next-generation products and solutions. By integrating the group's resources, we can continue to explore strategic opportunities with industry partners to strengthen technology innovation and reduce risks, and to create a sustainable future for the industry. For details, please visit https://www.aseglobal.com



Service Scope

ASEH is the leading provider of semiconductor manufacturing services in assembly and test. The company offers complete turnkey solutions covering front-end engineering test, wafer probing and final test, IC packaging, materials and electronic manufacturing services and develops leading edge technologies to serve the semiconductor, electronics and digital technology market.



Global Operation

Headquartered in Taiwan, ASEH's sales and manufacturing facilities are strategically located globally in Taiwan, China/ Hong Kong, South Korea, Japan, Malaysia, Singapore, Vietnam, Mexico, U.S.A., Tunisia and European countries. ASEH has a worldwide headcount of over 92,000 employees (as of December 2023).

- IC Services
- System Services
- Service Centers
- Sales and Representative Offices

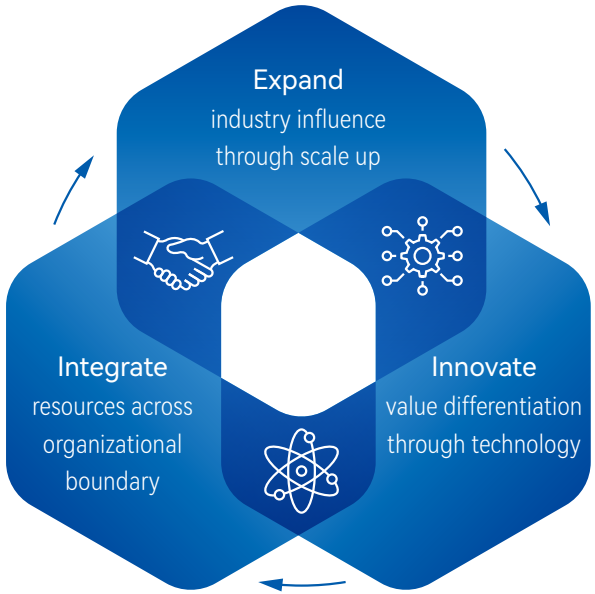
1.2 Mission and Vision

ASEH offers the best manufacturing services in semiconductor packaging/testing, substrates, and systems. We act as an extension of our customers' own operations, helping them achieve maximum success through efficient resource utilization and our extensive manufacturing chain. To stay ahead of the semiconductor technology curve, ASEH builds a highly experienced and skilled engineering team that continually innovates and develops the most advanced semiconductor technologies.

ASEH adheres to the highest corporate governance standards and transforms business philosophies into sustainable actions. As a major player of the global semiconductor chain, we carefully strategize according to industry development and trends, and seek talent and resources worldwide. We form strategic alliances with the government, industry, academia and business partners to keep innovating and create a mutually beneficial business environment. These alliances help support our sustainable development goals to achieve the betterment of mankind and ecological conservation.

ASEH Value Creation Model

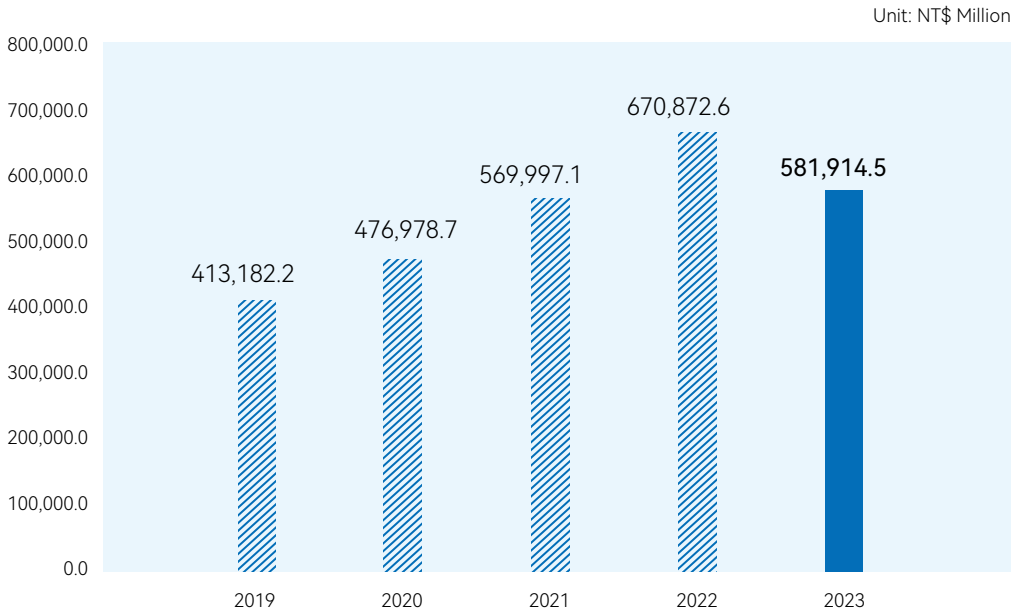
In alignment with our mission and vision, and to maintain industry innovation and leadership, we incorporated future industry trends together with the feedback from our senior management and operating units on the indicators about corporate sustainability to establish the ASEH Value Creation Model. Our value creation model consists of three strategies - Integrate, Expand, Innovate. The model enables ASEH to respond to future challenges and more importantly, it forms the basis of ASEH's foundation in integrating sustainability into our business strategy.



1.3 Financial Performance[1]

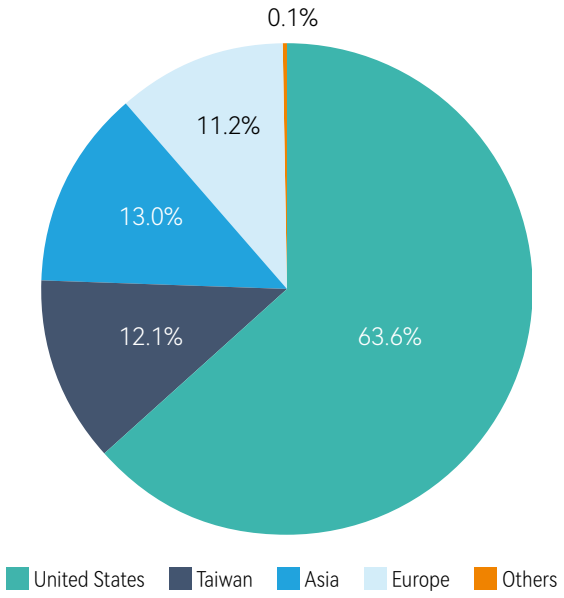
The Group's consolidated revenue in 2023 amounted to NT$581.9 billion (including NT$306.7 billion in semiconductor assembly and testing business, NT$268.3 billion in electronic manufacturing services and NT$6.9 billion in others), under the global economic circumstances, a decline of approximately NT$89 billion over 2022, declined 13.3% year-over-year. In terms of the semiconductor assembly and testing business, the consolidated revenue in 2023 declined by NT$53.2 billion over 2022, with a decline of 14.8% year-over-year (excluding substrate and inter-segment revenue). In addition, for the electronic manufacturing services business, the consolidated revenue in 2023 decreased by NT$33.8 billion over 2022, with a decline of about 11.2% year-over-year.

Annual Operating Revenue



2023 Revenue

We categorize our operating revenues geographically based on the headquarters in which customers are located.



[1] For further details on financial performance, please refer to our consolidated financial report: https://ir.aseglobal.com/html/ir_financial.php

SUSTAINABLE GOVERNANCE

2.1 Organization and Structure

The Corporate Sustainability Committee (CSC) was formed by the company to serve as the highest level of authority in the planning and supervision of sustainability-related strategies, and facilitating the accomplishment of sustainability management policies and goals of the 3 member companies of ASEH. The CSC comprises ASEH's directors and is headed by the chairman, who oversees the committee's performance and reports the progress to the board of directors. While the management continues to set the company on a growth trajectory, it remains equally focused on creating positive social and environmental impacts. At least once a year, the Corporate Sustainability Committee reports to the Board of Directors on the following areas: (1) current policy guidelines and organizational structure; (2) status on the progress towards sustainable development; and (3) management policies, goals, and future plans on major sustainability issues. The Board of Directors oversees and reviews implementation outcomes.

The Corporate CSR Division was established to serve as the executive secretariat of the CSC. The Corporate CSR Division supports the resource integration and site expertise across all 3 member companies to formulate top-down and horizontal promotional strategies. At the same time, each member company - ASE, SPIL and USI, has a (Corporate) Sustainability Committee established at the group level with multiple taskforces. The committee, headed by a senior level executive, is tasked with identifying key issues for discussion, annual presentation of performance and results, and reviewing the progress of meeting various short, medium and long-term sustainability objectives.

In the 2023 CSC annual meeting, the CSC formulated short, medium and long-term goals that helps the company better respond to the evolving industry landscape and global developments in sustainability trends. For more information, please refer to the relevant chapters.

Board of Directors

- Identify corporate-wide sustainability mission or vision
- Declare policies, systems or relevant management guidelines

[Executive Secretariat] Corporate CSR Division

- Promote the execution of sustainability action plans
- Assess sustainability performance
- Disclose information on sustainability performance

ASEH Corporate Sustainability Committee

- Develop and establish corporate-wide sustainability vision, policies, and targets
- Identify risks and opportunities related to sustainability issues and determine responsive strategies and investments
- Supervise the planning and implementation of sustainability strategies
- Oversee sustainability performance and information disclosure

- **Chairperson:**
  Jason C.S. Chang ASEH Chairman
- **Vice Chairperson:**
  Joseph Tung ASEH Group CFO
- **Members:**
  Tien Wu ASE General Manager and CEO
  Chi-Wen Tsai SPIL Chairman and General Manager
  Jeffrey Chen USI Chairman

ASE Corporate Sustainability Committee

Chairperson: Tien Wu General Manager and CEO

- Corporate Governance
- Environment & Green Innovation
- Supply Chain Management
- Employee Care & Development
- Social Involvement

SPIL Sustainability Committee

Chairperson: Chi-Wen Tsai Chairman and General Manager

- Risk Management 1
- Risk Management 2
- Environmental Innovation
- Employee & Social Involvement
- Corporate Governance

USI Sustainability Committee

Chairperson: C.Y. Wei President

- Corporate Governance
- Green Product & Innovation
- Value Chain Management
- Employee & Society Well-being Engagement
- Environmental Protection & Occupational Safety

Taskforces

- Develop and execute action plans
- Monitor implementation progress and performance of the action plans
- Provide expertise support and experience sharing

2023 Key Sustainability Projects

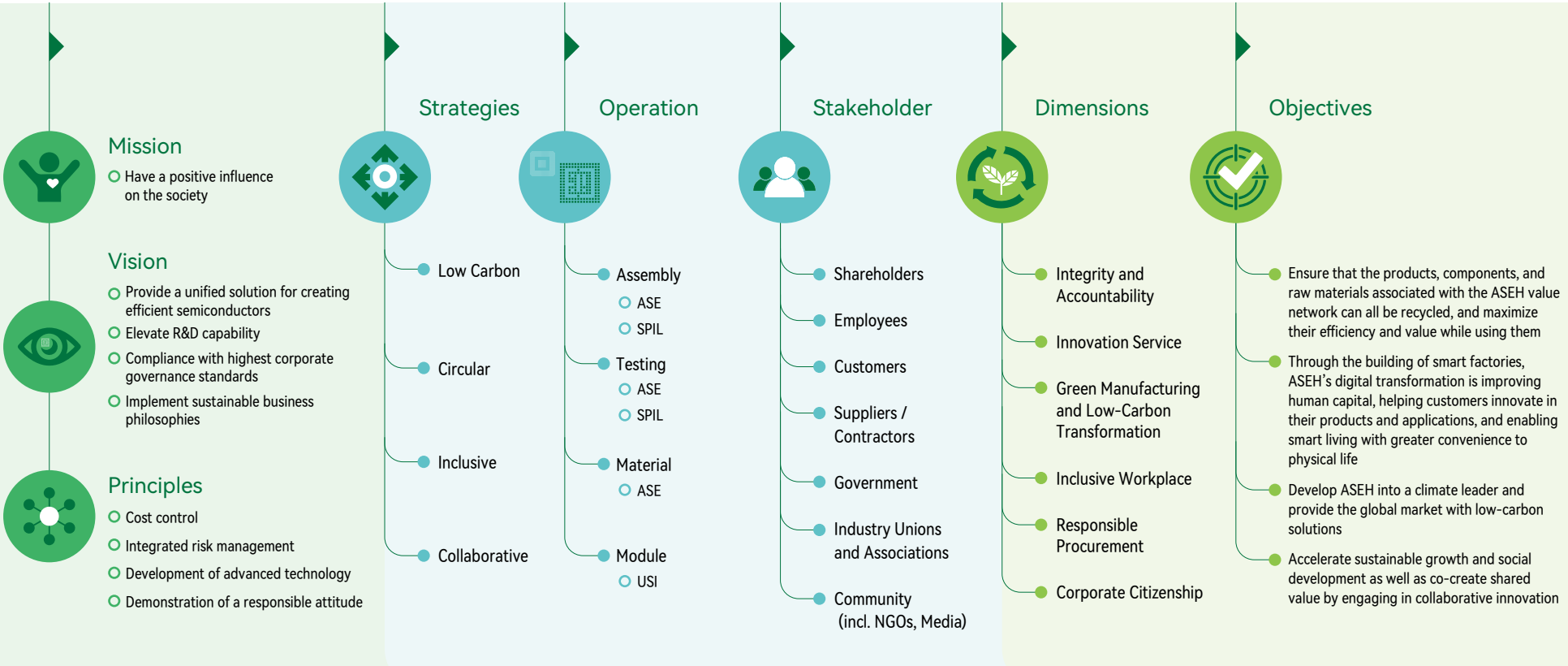
Dimensions	Key Projects	Partners	Positive Changes
Environmental	Net Zero Emission	• Government • External Consultants	• Structural Transformation of Energy and Lower Operational Risks • Mitigation of Extreme Climate Change
	Climate and Environmental Report	• External Consultants	• Strengthening Global Climate Risk Management • Responding to Stakeholders' Concerns
	Biodiversity Conservation and Restoration	• Government • External Consultants	• Mitigating or Compensating the Impact of Operations on Nature • Slowing Down Biodiversity Loss
	Circular Economy within Our Value Chain	• Academic and Research Institutions • Suppliers	• Waste Recycling and Reusing • Increasing the Circular of Energy Resource and the Eco-efficiency
	Expanding the Scope of Implementation of Innovative Technologies	• External Consultants • Customers • Academic and Research Institutions	• Improving the Positive Impact of Value Chain Activities
Social	ASEH Ocean Guardian Project	• Government • External Professional Institutions • Non-profit Organizations	• Cleaning the Coast and Marine Environment • Conservation of Marine Ecology and Biodiversity
	2023 ASEH Social Innovation Competition	• Government • External Consultants • Academic and Research Institution	• Support Social Innovation and Promote the Development of Sustainable Ecological Industries • Implement Environmental Protection and Create Sustainable Impact Together
	Assistance Program for Disadvantaged Students	• Academic and Research Institutions	• Improving Learning Environment • Increasing the Willingness of and Opportunities for Disadvantaged Students to Learn
	Employee Engagement Survey	• External consultants	• Strengthen Talent Attraction, Retention, and Cultivation • Enhance Employees' Approval of and Alignment with the Company
	Systems for Key Talent Retention	NA	• Strengthen Talent Attraction and Retention
Governance	ASEH Supplier Sustainability Awards	• External Consultants • Auditing Organizations • Suppliers • External Experts and Scholars	• Promoting Sustainable Collaboration and Cultivating Sustainable Suppliers
	Supplier Guidance on Carbon Inventory	• External Consultants • Auditing Organizations • Suppliers	• Developing Supplier Capabilities to Perform Carbon Inventory
	Conflict Minerals Management	• External Auditing Organizations • Authorities	• Implement Responsible Procurement
	Corporate Governance Evaluation System	• Authorities	• Enhancement of Corporate Governance Mechanisms
	Performance Evaluations for the Board of Directors and Its Subordinate Functional Committees	• Authorities	• Enhancing the Functions of the Board of Directors
	Information Security Management	• External Professional Consultants and Institutions • Suppliers	• Improving Information Security Capacity • Minimizing Operating Risks

Sustainable Management Framework

We have established our sustainable management framework in accordance with our Sustainable Development Best Practice Principles and Corporate Sustainability and Citizenship Policy. We have also identified sustainable development opportunities through risk identification and close collaboration with our partners and stakeholders. ASEH works with external parties to implement its goals and targets in sustainable development, strengthen the company's business decision-making process, and create a sustainable business model.

ASEH Sustainable Management Framework

Sustainable Development Best Practice Principles
Corporate Sustainability and Citizenship Policy



Enriching and Promoting Sustainable Culture

Sustainability is integral to corporate culture and drives broad transformation in companies. At ASEH, we continue to rigorously fulfil our corporate social responsibilities in tandem with maintaining our competitive edge. We have developed a diverse range of programs to ensure that sustainability is firmly ensconced at the core of ASEH's corporate DNA. To that end, we aim to extend the culture from our employees to external stakeholders, further demonstrating the company's intangible value. Our resolute focus on surpassing ourselves and giving back to society has allowed us to achieve corporate social responsibility and build an inclusive society. Together with the integration of resources from all disciplines, the company is on track to creating positive social impacts.

ASE Tree Protection Activity

2023 Activities to Cultivate Sustainable Culture at ASEH

Dimensions	Activities	Effects of building a sustainable culture
Environmental	ASEH has pledged to achieve net-zero emissions by 2050 by setting clear short, mid and long-term goals, guided by its five major principles. Concurrently, ASEH is actively involved in climate change initiatives across various sectors, including government, academia, and non-profit organizations. ASEH is a member of the SEMI Semiconductor Climate Consortium (SCC), Taiwan Net Zero Emissions Association, and the Taiwan Carbon Capture Storage and Utilization Association. We have also submitted our net-zero initiatives to the SBTi. We aim to leverage our influence on a global scale to foster a resilient, transformative and progressive semiconductor supply chain.	• Expand the influence of net zero initiatives • Promote low-carbon transformation in the supply chain • Drive low-carbon manufacturing innovatively
Social	ASEH and the CommonWealth Magazine have jointly organized the selection of outstanding "Smiling Taiwan Creative Lesson Plan" for nine consecutive years. This initiative aligns with the United Nations' sustainable development goals (SDGs) and encourages teachers from senior and vocational high schools, junior high schools, and elementary schools to leverage local resources and design unique learning curriculum. By encouraging students to work together as a team, students will gain more insights into local cultures and their environments. The program also aims to raise awareness of global sustainability trends through education and engagement. At the ASE Environmental Education Award in 2023, the winning lesson plans for the "junior, senior, and vocational high school category" and "elementary school category" were "Golden Elegance and Sustainability" designed by the Taipei Municipal Jinhua Junior High School and "Maritime Beauty" designed by the Taitung County Ningbu Elementary School, respectively. "Golden Elegance and Sustainability" integrated concepts of biodiversity, green buildings, and carbon footprint, enabling students to adopt sustainable practices in everyday life. "Maritime Beauty" combined traditional elder stories with modern coastal ecological observation methods, promoting an innovative program for marine protection education.	• Improve environmental literacy • Raise sustainability-related awareness • Promote social participation
Economic	In 2023, ASEH held its second Supplier Sustainability Award, introducing new themes of "Inclusive" and "Collaborative" while expanding its supplier categories to include transportation and logistics suppliers. These efforts demonstrated ASEH's steadfast commitment to developing a sustainable supply chain. During the supplier selection process, meetings were convened with related departments across all major ASEH business locations. By including key operational units in the supplier selection process, ASEH aims to enhance employees' and suppliers' understanding of its sustainable strategies and actions; thereby strengthening the company's connection with its suppliers, facilitating the circular economy, and improving the industry's carbon reduction-related capabilities.	• Incentivize suppliers to engage in sustainability-related endeavors • Construct a circular economic industrial chain • Reduce the social costs of carbon emissions

SPIL Beach Cleanup Activity

USI Sustainability Committee Annual Meeting and Forum

Average RBA SAQ score **91**

Percentage of RBA VAP-certified facilities globally **92%**[1]

Availability of audit reports to customers via the RBA-Online platform **100%**

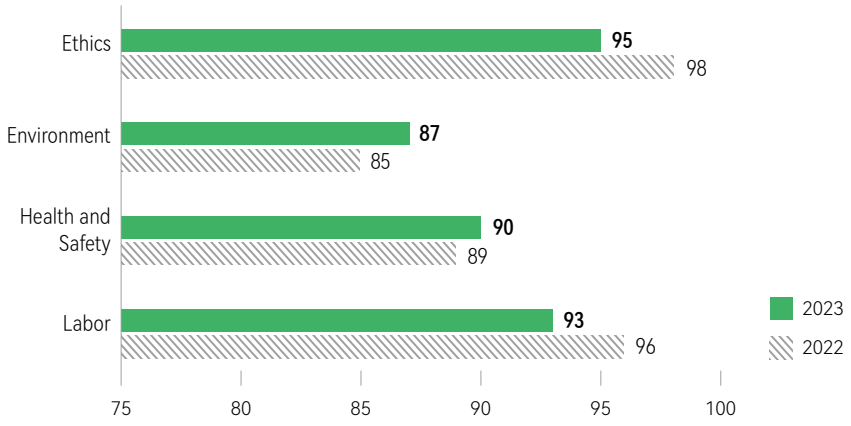
As a global leader in semiconductor packaging and testing, and system integration, ASEH is committed to environmental protection and compliance to the highest ethical standards. As a member of the RBA (Responsible Business Alliance), all our manufacturing facilities participate in the annual RBA Self-Assessment Questionnaire (SAQ) to evaluate specific inherent risk areas in labor, health and safety, environment, and ethics. 2023 our manufacturing facilities scored over 91 points on average.

The RBA VAP (Validated Assessment Process) was initiated by the ASEH Corporate Sustainability Committee (CSC) since 2017, and was implemented across all our manufacturing facilities. Audits were conducted by independent third-party firms to identify risks and drive improvements and robust management systems for labor, ethics, health, safety, and environmental conditions in the supply chain.

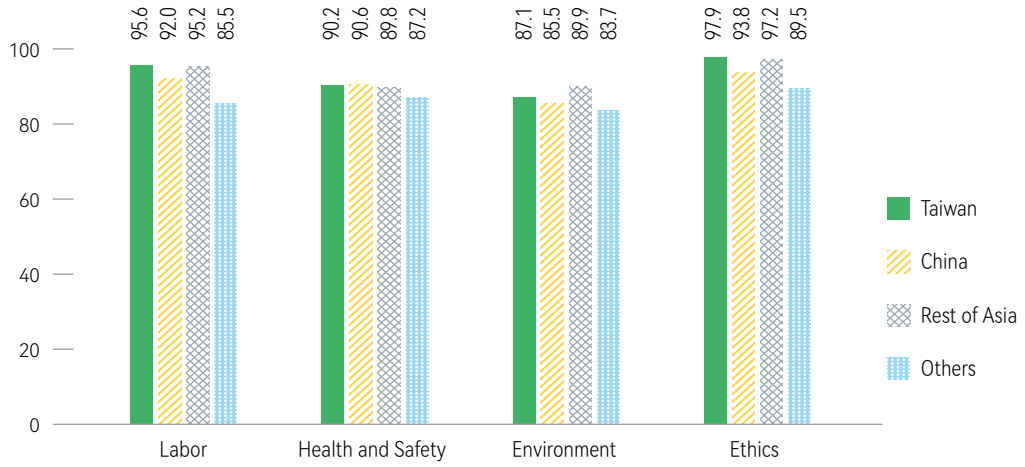
Our global locations include Taiwan, China, Japan, South Korea, Singapore, Malaysia, Vietnam, the United States and Mexico. As of 2023, 23 of our facilities have completed the RBA VAP. Customers can request the completed audit reports via the "RBA-Online" platform.

[1] ASE Shanghai (Material) and ISE Labs China do not complete RBA VAP

Average SAQ scores (by category)

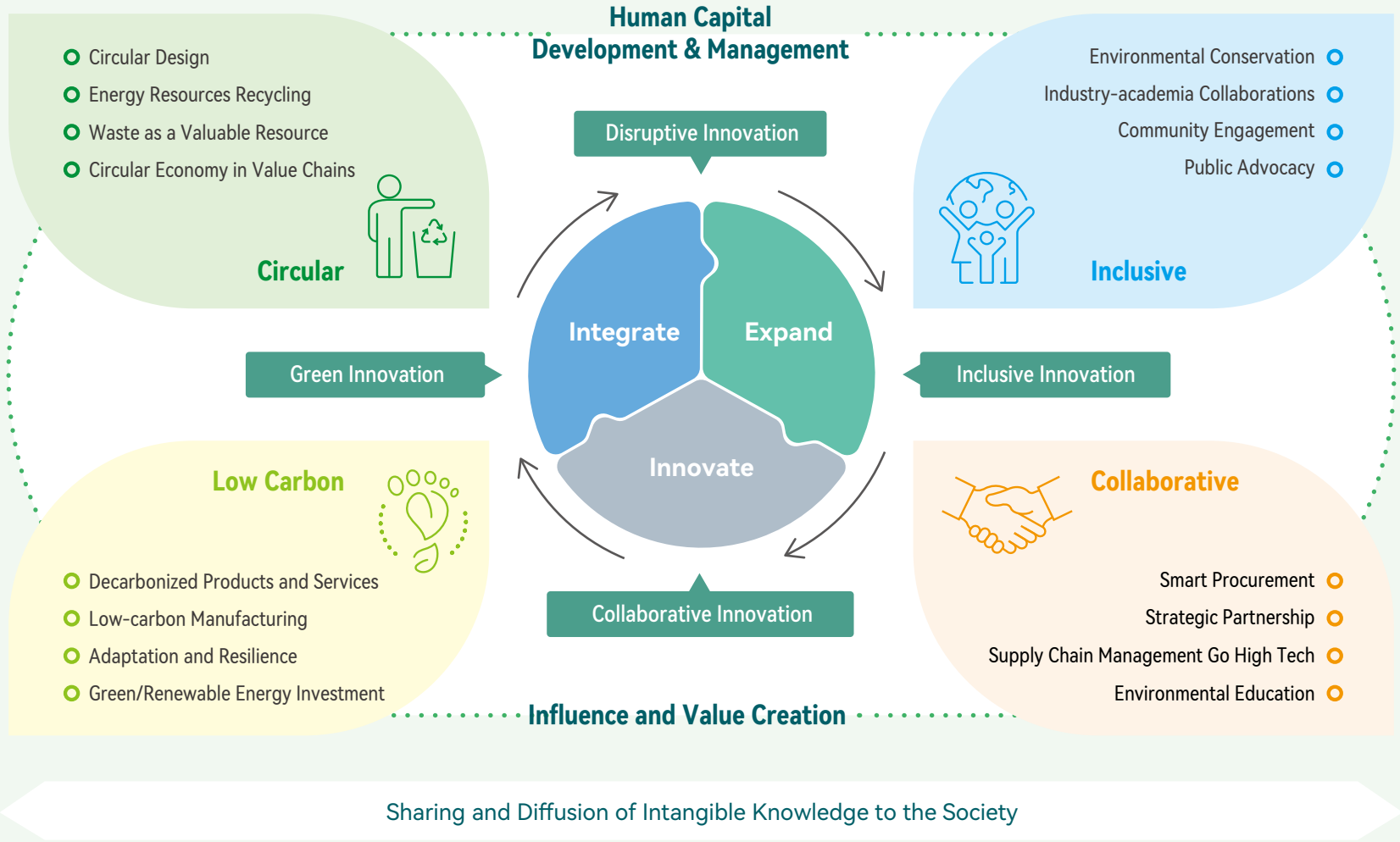


Average SAQ scores in 2023 (by region)



2.2 Sustainability Strategies

Strategy-setting is the key to achieving long-term sustainability targets that tackle global climate challenges, uncertainties in the energy supply, and risks related to supply shortages of water, raw materials and other resources faced by businesses. To that end, ASEH has established four strategic sustainability pillars: Low Carbon, Circular, Inclusive and Collaborative, to help identify opportunities and growth drivers. We are committed to the creation of sustainable value and, to extending our strategic influence through external stakeholder communication and joint efforts with various interest groups to achieve a virtuous cycle of sustainability.



Sustainability Vision

In our annual CSC Meeting, we review the achievement rates of our sustainability goals, and disclose the progress toward goals and the status of projects, providing visibility to employees, partners, customers and the general public. In 2023, we established our long-term sustainability targets for 2030 based on major sustainability topics and their relative importance to our business operations. These targets serve to strengthen the correlation between the SDGs and our sustainability strategies, leading to the ultimate fulfillment of ASEH's commitment to corporate social responsibility.

Strategic Approach and Goals of Key Issues

On Schedule Room for Improvement

Dimensions	Key Issues	Business Impact on ASEH	Strategic Approach	2030 Target	Progress/ Status
Integrity and Accountability	Regulatory Compliance	Ensuring corporate compliance with all applicable laws is an important aspect of sustainability management. Operational and financial risks can be mitigated through a robust system of preventive measures.	**Implementing effective regulatory compliance system:** Strengthen the process for identification of regulatory requirements and reinforcing education to increase employee awareness of regulatory requirements.	• Cases involving violations by ASEH: 0 • Major cases involving violations by ASEH subsidiaries: 0	
	Business Ethics	Establishing norms of business conduct and ethics, and creating an honest and responsible culture are key to our long-term business success.	**Implement business conduct and ethics-related policies and regulations:** Continue to promote education and training, commit to comply with ethical standards in all ASEH business activities, and ensure the effectiveness of reporting systems by audit.	• Employee training coverage: 100% • Subsidiary roll-out coverage: 100%	
	Information Security Management	Ensure the confidentiality, integrity and reliability of the company's information assets and compliance with relevant laws and regulations in order to further gain customers' trust, elevate the company's competitive advantage and maintain the stability of sustainable business operations.	**Enhance information security governance:** Identify internal and external information security management risks, prevent or mitigate the business impact of information security incidents, provide regular employee education and training, and raise employee awareness to improve the security of business operations.	• Major information security incidents: 0 • NIST CSF information security maturity assessment coverage rate: 100% • Percentage of employees receiving information security education and training: 100%	
Innovation Service	Innovation Management and Sustainable Manufacturing	Continuous innovation of technologies lower costs, improve efficiency, thereby reducing resource consumption and energy consumption. At the same time, business model innovation on the value chain can increase ASEH's core competitiveness and enable expansion capacity.	• Set up a patent reward program to encourage patent applications, that will strengthen the company's operations and IP portfolio. • Establish patent applications as the Key Performance Indicator of the Annual Objective Deployment (AOD).	• 9,000 patents granted[1] • Scope of product Life Cycle Assessment (LCA): 50%	
	Customer Relationship Management	Good customer relationship management helps to improve our customers' satisfaction and loyalty, thereby increasing our profit and core competitiveness.	**Continuously enhance customer communication:** Providing diverse communications channels to enable instant interaction and communication with customers; enhance information security management to ensure the confidentiality and integrity of customer proprietary information.	• Customer satisfaction: 90%	

[1] The number of approved patents includes the number of abandoned patents and expired patents

Dimensions	Key Issues	Business Impact on ASEH	Strategic Approach	2030 Target	Progress/ Status
Green Manufacturing and Low-carbon Transformation	Energy Management	Use of low carbon and diverse energy sources and smart energy management will increase energy efficiency, reduce GHG emissions, and lower operational risks.	• Increase the use of clean/renewable energy. • Continue to improve energy management: Establish standardized management systems through ISO 50001 to improve energy efficiency, and build smart energy management systems to facilitate precise control and lower standby mode energy consumption.	• Adopting an energy saving plan to decrease annual power consumption by more than 2% • Renewable energy to account for 42% of total energy consumption • ISO 50001 coverage in manufacturing facilities: 100%	
	Climate Strategy	Climate change is a major global environmental issue. As ASEH continues to expand, the company becomes increasingly energy-dependent and faces growing pressure from customers, government and other stakeholders to increase its use of renewable energy.	**Reduce GHG emissions & provide green manufacturing services:** • Green facilities (efficient building designs) • Efficient use of energy resources • Purchase and use of clean/renewable energy and RECs • Green product designs	• GHG emissions inventory coverage of the manufacturing facilities: 100% • GHG intensity (GHG emissions per revenue): achieve 15% reduction compared with 2015 • Absolute GHG emissions reduction target: Reduce Scopes 1 and 2 emissions by 35% with 2016 as baseline and Scope 3 emission by 15% with 2020 as baseline	
	Water Resource Management	Efficient management and use of water resources to alleviate local water stress, increase corporate sustainable operation resilience and boost the company's competitive strength.	**Establish a Sustainable Water Efficiency Management System:** Establish a systematic management model based on ISO 46001, conduct water review and set management goals and indicators, use reduction, replacement or reuse methods to continuously optimize water efficiency, reduce operating costs and protect global water resources.	• Day(s) of production shutdown in Taiwan facilities due to phase 3 water rationing (30% volume reduction of water supply): 0 • Water use intensity (water use per revenue): achieve 52%[1] reduction compared with 2015	
	Waste and Circular	Improving material utilization rate to reduce waste production and lessen the environmental impact of the company's operations.	**Enhancing source reduction in waste management:** Identify recyclable raw materials and moving towards minimizing waste through a circular model.	• General waste recycling rate: > 90% • Hazardous-waste intensity (hazardous waste generated per revenue): achieve 61%[2] reduction compared with 2015	

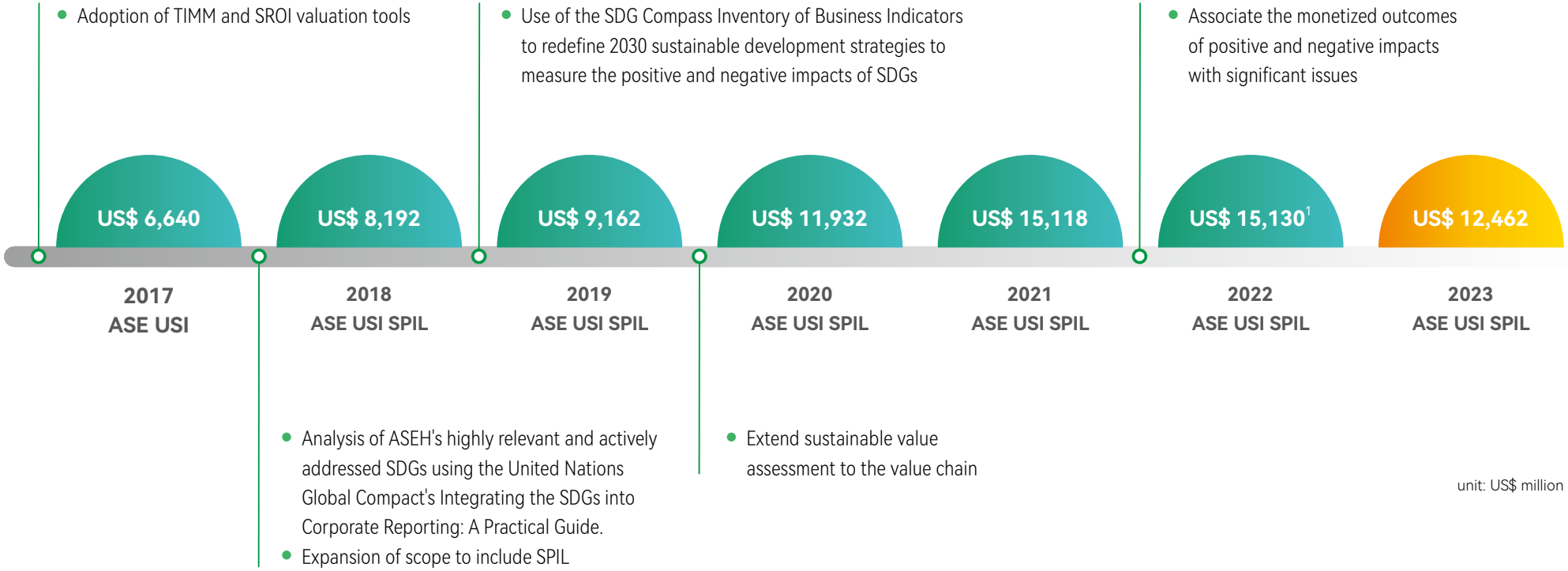
[1] In 2023, water withdrawal intensity decreased by 46% compared to 2015, surpassing the long-term goal of a 15% reduction by 2030. Therefore, the long-term goal has been increased from 15% to 52%
[2] In 2023, Hazardous-waste intensity decreased by 58% compared to 2015, surpassing the long-term goal of a 15% reduction by 2030. Therefore, the long-term goal has been increased from 15% to 61%

Dimensions	Key Issues	Business Impact on ASEH	Strategic Approach	2030 Target	Progress/ Status
Inclusive Workplace	Talent Attraction and Retention	Positive labor relations can promote organizational harmony, increase employee identification with the company, support the company's global competitiveness, and maintain its competitive advantages.	**Implement employee engagement survey and feedback mechanisms:** Besides encouraging employees to be proactive in company activities, we understand employees' opinions by using employee engagement surveys, and offer competitive compensation and benefit programs.	• Deployment of employee engagement survey every 2 years: ➤ Result of employee engagement survey: >85% ➤ Employee coverage: >95% • Overall turnover rate: <20%	
	Talent Development	Good training and development programs help attract and retain talents, and create a pleasant working environment, thereby increasing corporate productivity and innovation, and supporting the company's requirements and capabilities for long-term business growth.	**Enhance talent development and training effectiveness:** Provide challenging and valuable career development opportunities for employees by offering better training plans and promotion opportunities within the company.	• Percentage of management vacancies filled through internal promotion: >75% • Rate of Open Positions Filled by Internal Candidates: >50%	
	Diversity and Inclusion	Establishing a diversified, equal, inclusive, and friendly workplace that respects the differences and uniqueness of employees to generate positive impacts on the company's operations.	**Building a diversified and open workplace:** Promoting long-term plans for training and cultivating female managers and enhancing the technology competence of female employees as well as their knowledge in science, technology, engineering, and mathematics (STEM). Establishing a diversified, equal, inclusive, and friendly workplace that respects employees' uniqueness and differences.	• Female employee in top management positions: 15%	
	Human Rights	Upholding fundamental rights of employees as well as creating an environment that guarantees human rights are essential for a sustainable business.	**Protection of human rights:** Prohibition of forced labor, child labor, discrimination and harassment; ensuring rights of freedom of association and privacy; provision of reasonable working hours and appropriate compensation and benefits.	• Major regulatory violations: 0	
	Occupational Health and Safety	Having an advanced and proactive health and safety management system is conducive to reducing absenteeism and improving productivity and quality.	**Continuously improve health and safety management system:** Make all reasonable efforts to prevent accidents and promote the physical and mental health of employees by shaping a corporate safety culture where the safety and health of all employees are safeguarded.	• Disabling Frequency Rate (F.R.): <0.5 • Disabling Severity Rate (S.R.): <9 • Major injury and occupational disease: 0 case • Employee absenteeism rate: <2.3%	
Responsible Procurement	Sustainable Supply Chain	Establishing a sustainable supply chain is a win-win strategy that strengthens the protection of our suppliers' employees and assets and indirectly improves our competitiveness.	**Ensure supply chain's sustainable development:** Establish partnerships with our suppliers to ensure that they have their own sustainable development plans, which include providing a safe working environment, treating employees with respect and dignity, and maintaining ethical standards and environmental responsibility.	• Signing of Code of Conduct Agreement and completion of sustainability risk self-assessment: ➤ 100% for new suppliers • Completion of sustainability risk survey: ➤ 100% for all Tier-1 suppliers ➤ Over 50% for non Tier-1 suppliers • Completion of sustainability audits conducted: ➤ 100 Tier-1 suppliers ➤ 100% for high-risk Tier-1 suppliers	
Corporate Citizenship	Social Involvement	Active community development through strategic charitable and educational programs, and social work helps to build positive and constructive relationships at the local level, strengthen our social license to operate and create a well-educated workforce for future recruitment.	**Social involvement strategies:** Environmental Conservation, Industry-academia Collaborations, Community Engagement and Public Advocacy.	• Over 150 industry-academia collaboration projects on environmental technology • Organizing semiconductor courses for 2,000+ students • Over 2,000 disadvantaged students attending the after school program • Offering financial aid to 95,000+ school children from underprivileged families • Advocating 25+ semiconductor industry-related regulatory initiatives	

2.3 UN Sustainable Development Goals and Sustainable Values Assessment

ASEH is building upon its technology leadership to steer the semiconductor industry towards greater sustainability. Since 2017, we have adopted the Total Impact Measurement and Management (TIMM) framework and Social Return on Investment (SROI) analysis to assess the social impacts and operational risks of the company's business activities using monetary valuation tools. In 2018, we began referencing the United Nation's "Integrating the SDGs into Corporate Reporting: A Practical Guide" to map out sustainable development goals (SDGs) and sub-targets that need to be actively addressed. In 2019, we used the SDG Compass Inventory of Business Indicators to examine the positive and negative impacts of our four major SDGs and the outcomes of our actions. In 2020, we further applied sustainable value assessment used internally to the value chain so as to understand and analyze the impact of value chain activities on the environment and society. In 2022, we associate the monetized outcomes of positive and negative impacts with significant issues. This information will then be provided to the CSC to serve as references for the performing of weighing and comparisons in the value creation decision-making process. By examining and analyzing the sustainability outcomes of actions by ASEH subsidiaries, we have been able to develop action plans and policies for improvements and reduce the impact of potential risks. As such, we are able to fulfill our vision of promoting the United Nations' 2030 SDGs via our own core competencies.

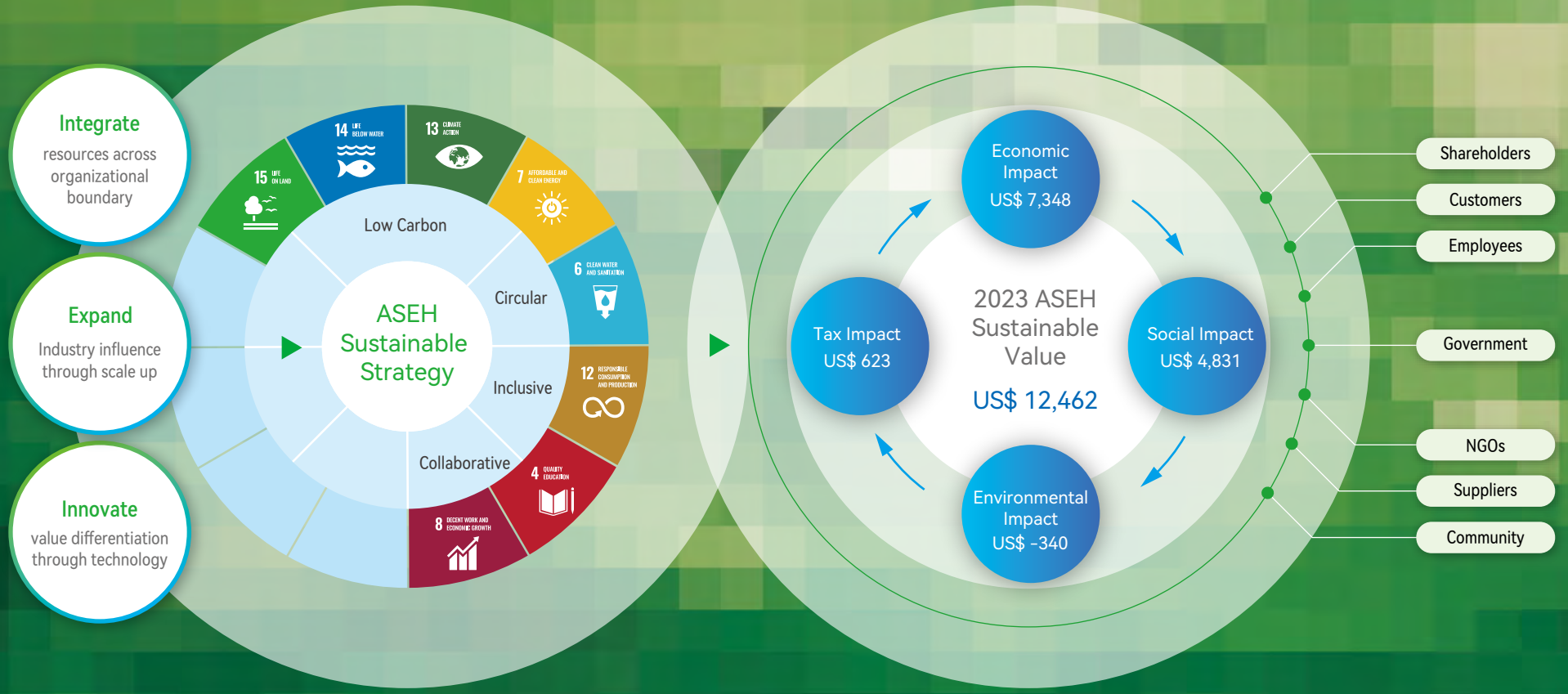
Major ASEH Valuation Milestones



unit: US$ million

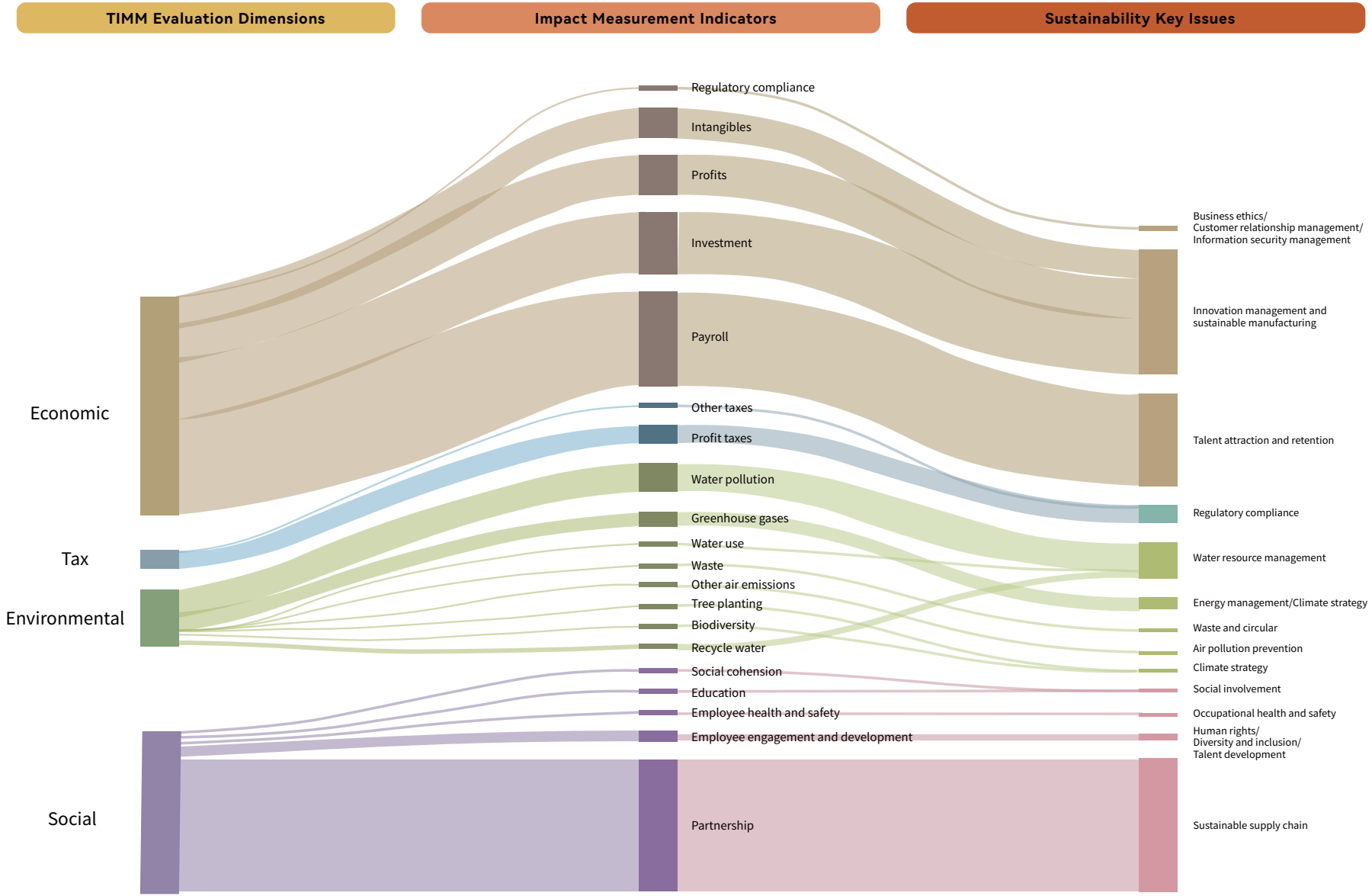
[1] Due to changes in the assessment basis of environmental indicators, the impact value for the year 2022 had been recalculated to facilitate comparison between the two years

ASEH Valuation Model



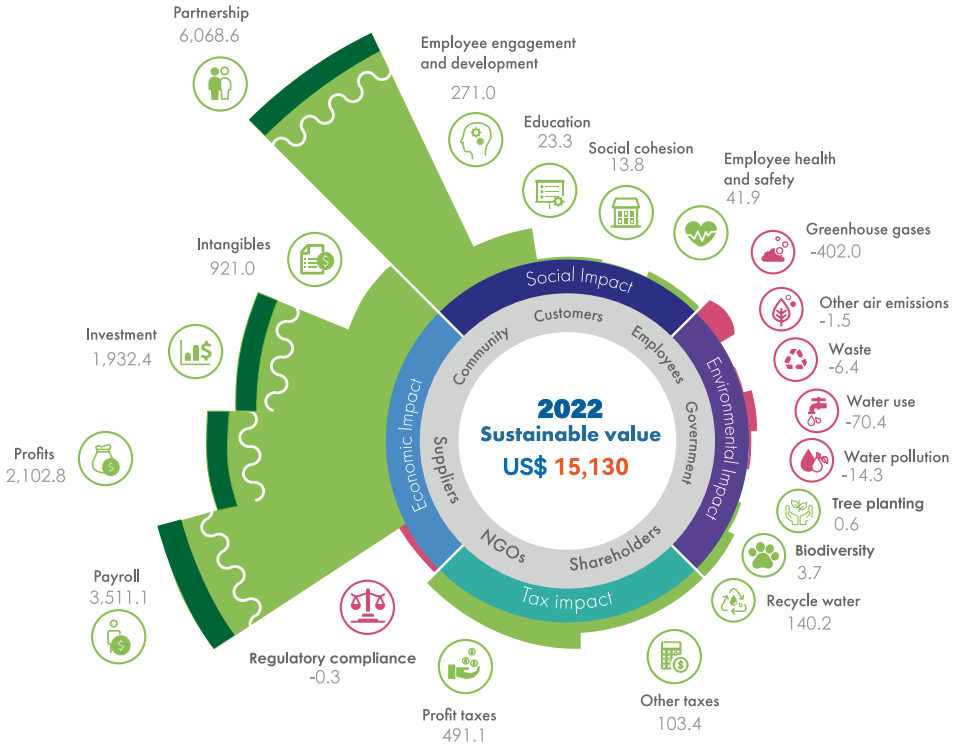
unit: US$ million

The relationship diagram of ASEH value impact and significant issue



Contributions to Global SDGs

We adopted sustainability management measures for prioritized SDGs to generate more positive impacts and contributions. In 2023, our business activities help boost GDP and local economies while at the same time, our business returns are invested into employee benefits, social welfare, renewable energy and biodiversity to give back to society, therefore, can result in positive impact on the SDGs of Decent Work and Economic Growth, Quality Education, Responsible Consumption and Production, Life below Water and Life on Land in terms of sustainable management. Demands on environmental resources in our business operations can result in negative impacts on the SDGs of Affordable and Clean Energy, Climate Action, and Clean Water and Sanitation. We have therefore committed ourselves to mitigating these impacts by focusing on sustainability programs through our Low Carbon and Circular strategies. In 2023, we are refining our goals for 2030 based on our four major sustainability strategies, so as to fulfill our commitment toward realizing these SDGs.



unit: US$ million

unit: US$ million

[1] Includes corporate volunteer cost of US$95,165

Sustainability Value and Impacts

ASEH adopted the TIMM framework for sustainability valuation to quantify the sustainable value of the company's impacts in the economic, tax, environmental and social dimensions. In 2023, ASEH generated US$12,462 million worth of sustainable value for stakeholders.

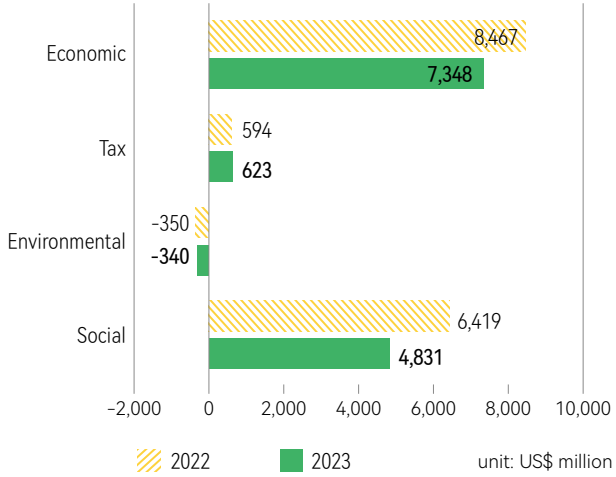
Economic and tax dimensions: In 2023, ASEH recorded a decline in packaging, testing, and EMS revenue due to the softening of the overall semiconductor industry and electronics market performance. This has in turn reduced our profits and the amount of employee bonus payouts. As a result, the overall economic value generated dropped by 13% from the previous year. Notwithstanding the decline in economic value, we expanded our investment in R&D and procurement of capital equipment during the course of the year, to maintain the company's market leadership. These activities generated a 5.3% increase in the value of our economic investments and a 4.3% increase in the value of our intangible assets, demonstrating our determination to improve our performance and product quality despite challenging circumstances. Tax expenditures in 2023 increased by 4.8% over the previous year due to earnings growth in 2022 and tax payments on the disposal of a subsidiary in Korea.

Environmental dimension: Two main sources of environmental impacts were water resource consumption during the production process and greenhouse gasses emitted from the use of electricity. Our renewable energy usage reached 20% of the total electricity consumption in 2023. On the other hand, we adopted the three major strategies of reduction, reuse, and recycling in the consumption of water resources. Investments were made in every plant to improve water recycling, thereby reducing environmental impacts caused by water consumption and increasing economic benefits. Since two manufacturing sites were included in the scope of calculation this year, negative effects of water consumption and wastewater pollution slightly increased by 1% compared to 2022, and the negative environmental impact of our operations increased by 2% compared to 2022. In the future, we will actively invest in environmental protection and fulfill our pledge to use the proceeds raised through our green bonds to construct commercial used green facilities and establish water recycling plants, water treatment plants, and a real-time waste water monitoring system that would mitigate environmental impacts and promote human health. In the meanwhile, we continued to invest in ecological conservation, and therefore the positive impact of ecological conservation in 2023 increased significantly by 48% compared to last year.

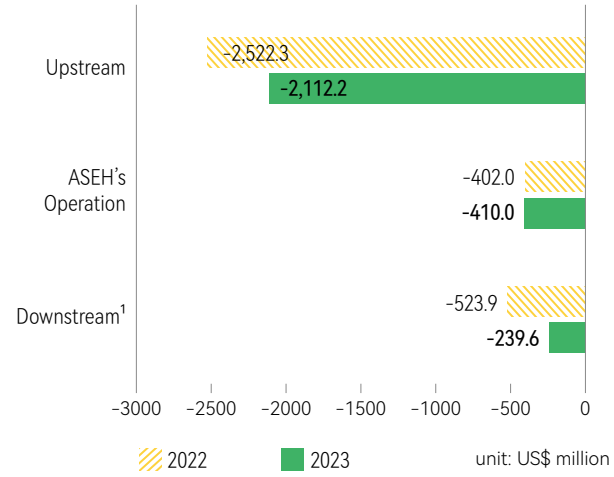
Social dimension: The overall 2023 value of our social impact fell by 24.7% compared with 2022. This was largely caused by a lacklustre economic environment that resulted in a 26% decrease in ASEH's annual local procurement amount. Despite a challenging year, the company continued to increase its investments in social support for the community. Excluding the value of corporate volunteer contributions, investments in social cohesion activities increased by 21.87% in 2023 over the previous year. Our active contribution to social welfare programs help to improve the well-being of the public and the community, as well as protect environmental resources. In addition, we had increased our investments in environmental education and job training by 53%.

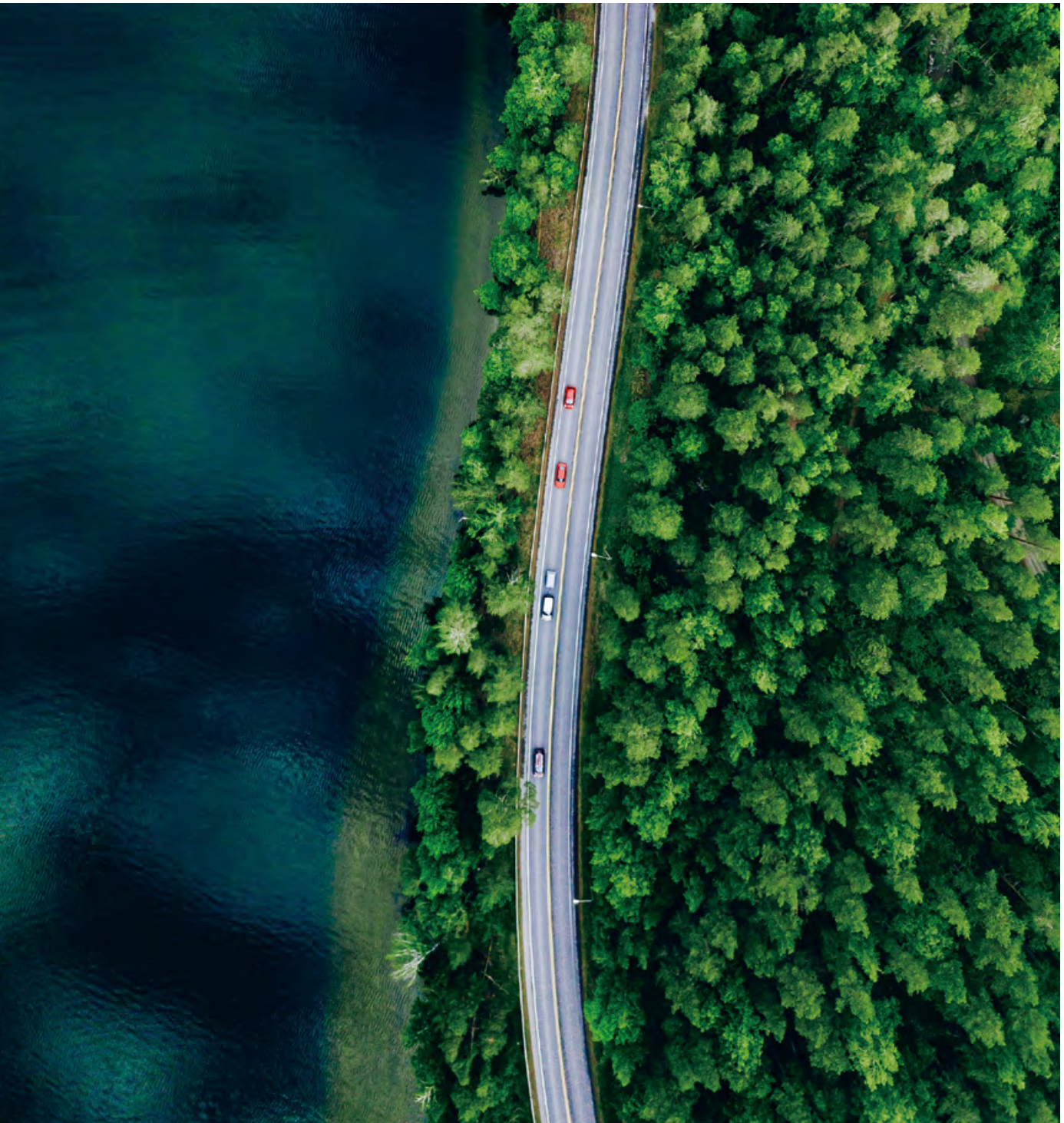
[1] Greenhouse gas emissions from investments in the downstream value chain have been included in calculations since 2022

2022-2023 ASEH Sustainable Values



2022-2023 Greenhouse Gas Value Chain Outcomes





Environmental Impact

In 2023, ASEH's overall environmental impact of US$-340 million is mainly attributed to resource consumption and environmental emissions from its business activities. We have paid close attention to the energy and resource efficiency of our facilities and put in place environmental programs to generate positive impacts and mitigate the external cost on the environment. Although two manufacturing sites were included in the scope of calculation this year, the overall impact (negative and positive) has decreased by 3% compared to US$-350 million in 2022. This reduction is mainly due to the annual operational impact of the industry and our continued efforts in implementing environmental mitigation measures, which have mitigated the negative impact. We recorded significant reductions in negative impacts from other air emissions and water use, further demonstrating our resolution and relative success in renewable energy usage, facilitating air pollution control, increasing water resource efficiency, and circular solutions in resource reduction. In 2023, we applied the SROI framework to quantify the impacts of our business operations and value chain activities on the environment based on SDG14 Life below Water and SDG15 Life on Land. ASEH remains committed to our low carbon mission and sustainability development, and will continuously expand the scope of our environment impact management.

Assessment of environmental impacts in 2023[1]

Input

In response to industry inventory clearance and the impact of inflation, revenue has declined compared to 2022. However, ASEH continues to increase the proportion of renewable energy use. Our manufacturing operations are spread across 9 regions including Taiwan, China, South Korea, Japan, Singapore, Malaysia, United States, Mexico, and Vietnam. The energy resource demands for our manufacturing operations are as follows:

Resource Demand	2022	2023	
Water resource consumption (megaliters)	23,399	21,468	↘
Non-renewable energy (MWh)	3,571,744	3,536,828	↘
Renewable energy (MWh)	819,863	844,044	↗
Resource circulation investments (US$ million)	55.7	36.8	↘

Notes: ↘ decrease ↗ increase

Output

ASEH is committed to sustainable manufacturing by continuously increasing relevant investments in ecology and environment protection, and developing energy management mechanisms and pollution control plans. We aim to maximize energy efficiency and increase product values, while reducing impacts on the environment. The environmental impact of our operations in 2023 is as follows:

Impact Items		2022	2023	
Greenhouse gas emissions	Scope 1 emissions (tCO_2e)	90,993	75,274	↘
	Scope 2 emissions (tCO_2e)	1,671,242	1,649,347	↘
	Scope 3 emissions (tCO_2e)	13,350,245	9,891,845	↘
Air pollutant emissions	Volatile organic compound, sulfur oxide, nitrogen oxide and particulate matter emissions (tons)	364	327	↘
Waste disposal	Hazardous waste disposal (tons)	12,455	9,492	↘
	Non-hazardous waste disposal (tons)	10,728	9,645	↘
Wastewater discharge[2]	Wastewater discharge (megaliters)	17,461	15,386	↘

External Impact

ASEH's overall environmental impact in 2023 totaled US$-340 million. Assessed external impacts include employee and public health, property damage, financial losses, biodiversity, impacts to ecosystems, and natural capital losses and other impact pathways. The major SDGs affected by negative external impacts are SDG 6 Clean Water and Sanitation, SDG 7 Affordable and Clean Energy, SDG 12 Responsible Consumption and Production, SDG 13 Climate Action, SDG 14 Life below Water, and SDG 15 Life on Land.

- The overall positive environmental impact totaled US$162 million, which is 12% higher than that of 2022. The net positive benefits related to water resources have increased by 27%, due to the increased amount of recycled process water and the significantly decreased number of pollutants in the wastewater.
- The value of negative environmental impact amounts to US$502 million, a 2% increase compared to 2022. The main reasons, in addition to inflation, are the addition of two manufacturing sites within the scope, which led to an increase in the pollutant content of water pollution. Through a green manufacturing process, we strive to reduce greenhouse gas emissions, waste, and water pollution. These measures resulted in positive contributions to the SDG 6, SDG 12, and SDG 13.
- ASEH has actively launched biodiversity-related activities this year. Biodiversity conservation is a key focus at ASEH, and the company is taking long-term actions to protect marine habitats and species, and the terrestrial ecosystem through various conservation programs including conservation and restoration of Chinese box turtle, adoption of parks, and tree planting and afforestation projects The company has planted more than 303 thousand trees, creating a positive ecological impact value of US$6.4 million.
- The monetized value of the indirect environmental impact of value chain greenhouse gas emissions amounted to US$-2,352 million, a 23% decrease compared to 2022. The main reason for the reduction is that we used the strategies of purchasing low-carbon raw materials and equipment, building low-carbon factories, and adopting green transportation to reduce impacts caused by product and service procurement.

unit: US$ million

Environmental Impact			2022	2023	
Negative	Greenhouse gas emissions[3]	ASEH operations	-402.0	-410.0	↗
		Products and services	-3,046.2	-2,351.8	↘
	Air pollution		-1.5	-1.4	↘
	Waste		-6.4	-5.4	↘
	Water resource consumption		-70.4	-67.5	↘
	Water pollution		-14.3	-18.0	↗
Positive	Water recycling	Water conservation	132.4	138.8	↗
		Water Pollution Reduction	7.8	17.2	↗
	Ecological conservation	Afforestation	0.6	2.0	↗
		Biodiversity	3.7	4.4	↗

[1] For more information on ASEH's sustainable values, please refer to ASEH's Total Impact Measurement and Management Report 2023 at https://www.aseglobal.com/download/
[2] Waste water pollutants include phenols, oils (extracted with n-hexane), cadmium, lead, total chromium, hexavalent chromium, copper, zinc, nickel, arsenic, silver and orthophosphate
[3] The source for GHG assessment methodology in 2022 and 2023 is Report on the Social Cost of Greenhouse Gases: Estimates Incorporating Recent Scientific Advances, USEPA

Social Impact

Social impact assessment allows ASEH to manage the sustainability values generated in areas including supplier partnerships, employee engagement and development, employee and contractor health and safety, and education and community cohesion. In 2023, ASEH's overall social impact totaled US$4,831 million, with US$4,808 million directly resulting from the company's operations[1]. The value is mainly attributable to supplier partnerships development and support.

Assessment of social impacts in 2023

Input	Output	External Impact
Direct operations: Inputs directly related to the operations of ASEH and its subsidiaries include: • We established a two-way communication mechanism with our suppliers, and we hold Annual Sustainability Forums, medium- and long-term sustainability capacity-building programs, sustainability workshops, and regular education and training for them in order to promote sustainable cooperation and strengthen their resilience and ability to respond to sustainability trends and risks. • Sustainability audits of 201 raw materials suppliers[2] • Procurement of 49.3% of raw materials from local suppliers[3] • Supplier Sustainability Awards • Comprehensive employee engagement survey • Regular risk assessment and continuous improvement of occupational health and safety • Investment of approximately US$3.3 million in employee health checkups • Investment of approximately US$6.5 million in industry-academia occupational training	Supplier partnerships: • Supplier audit results showed that 45% of nonconformities were related to occupational health and safety, 23% were related to labor, 20% were related to management systems, 9% were related to environment, and 3% were related to ethics • A total of over 5,500 attendees participated in Annual Sustainability Forums and supplier educational training • Invested a total of US$0.1 million into the Supplier Sustainability Award Employee engagement and development: • Employee engagement surveys showed an engagement rate of 77% with an employee response rate of 95% Employee and contractor health and safety: • 129 occupational injuries and 28 occupational diseases to employees and contractors • 59,949 employees participated in health checkups Education: • Conducted a total of 64 industry-academia projects on innovative semiconductor research and development	Social impact resulting directly from operations totaled US$4,808 million. • **Supplier partnerships:** We used the cost approach valuation and contingent valuation methods to assess that the value generated totaled US$4,492 million. Although the overall factor dropped by 26% compared with 2022, one of the indicators, supplier education and training, has increased by 68% in value compared with 2022 due to the increase in the number of suppliers participating in major education and training such as carbon inventory and sustainability forums. • **Employee engagement and development:** Survey results showed that investment in human capital builds sense of achievement, belonging in the workforce, psychological health, managerial ability, and cohesion of employees. Based on the degree of these outcomes, it was estimated that the social value generated was US$240 million. • **Employee and contractor health and safety:** We used the cost approach valuation to assess the positive and negative impacts of healthier work environments and occupational injury incidents. Positive impacts included the increased chance of disease recovery and reduced financial stress from medical costs due to employee health checkups and health insurance, which were assessed at a value of US$45 million. Negative impacts included harm to employees' and contractors physical, mental, and spiritual well-being to occupational injury incidents, which were assessed at a value US$-0.5 million • **Education:** We used the value transfer method to assess the social value of industry academia occupational training related to business activities, which totaled US$31.1 million. The major outcome was that industry- academia cooperation will give talented graduates the opportunity to work at ASEH and also bring new talent into ASEH to improve the competitiveness of our talent pool.
Indirect operations: • To promote social cohesion, ASEH and its subsidiaries organized public welfare activities and invested a total of approximately US$4.5 million in six categories: community development, community care, care for disadvantaged families, healthcare sponsorships, arts and culture sponsorships, and sports sponsorships • Investment of US$1.2 million in education, including environmental education. Investment of US$0.6 million in other education	• A total of 182 outputs in social cohesion activities, including 27 in public development, 50 in community care, 62 in care for disadvantaged families, 3 in healthcare sponsorships, 29 in arts and culture sponsorships, and 11 in sports sponsorships • A total of 66 outputs in education, including 42 in environmental education and 24 in occupational education	• We used the value transfer method to assess the social value of public welfare activities (excludes corporate volunteer) that promote social cohesion, which totaled US$15.7 million. Of these activities, care for disadvantaged families accounted for the largest percentage at 35%, and arts and culture sponsorships accounts for 34%. The third is the care for community, which accounts for 16%. The three major outcomes were as follows: increased self-identity of disadvantaged children, enhanced learning performance of disadvantaged children, and improvement in public knowledge about art, which improved the well-being of neighboring residents and the general public on the whole. • We used the value transfer method to assess the social value of environmental and other education, which was estimated to be US$7.2 million. The major outcome was improved environmental awareness in the general public and their ability to incorporate eco-friendly actions and behavior into everyday activities.

[1] The value of social impacts resulting directly from the company's operations is calculated by monetizing social impacts. The calculations therefore excluded public welfare activities and non-industry-academia educational projects
[2] Please refer to Chapter 7.3 of this report (Supply Chain Sustainability Management)
[3] Please refer to Chapter 7.2 of this report (Supply Chain Management Framework)

2.4 Materiality Assessments and Stakeholder Communication

Every year, ASEH develops a materiality execution framework that identifies major sustainability issues and develops economic, environmental, and social impact assessment methodologies by referencing major standards organizations like the 2021 GRI Universal Standards' GRI3: Material Topics, the AA 1000 Stakeholder Engagement Standard (SES), the Value Balancing Alliance (VBA), the Harvard Business School's Impact-Weighted Accounts research project, the London Benchmarking Group (LBG), and incorporating the concept of Double Materiality proposed by the European Financial Reporting Advisory Group (EFRAG). Applying the ERM approach to integrate risks and materiality allows the assessment of the company's organizational resilience. In addition, based on the major issues identified through the preceding process, we are able to develop long-term sustainable goals and strategies.

During the preparation of our 2023 Corporate Sustainability Report, we collected feedback from 2,298 stakeholders to understand the degree of concern on sustainability at ASEH. Led by the company's senior management, a total of 175 colleagues from the Corporate Sustainability Committee (CSC) of the subsidiary companies participated in identifying the degree of impact of each sustainability issue on the operations of the company. The CSC members, the supervisors of functional units, and the responsible personnel of our other subsidiary companies worked together to identify the impact of our operations on the sustainable development of the economy, environment and society (people and human rights). The company referenced the material issues identified in the previous year, and reported to the Board of directors on the final 16 issues selected as the basis for our long-term sustainability goals from now to 2030. The overall materiality assessment process is detailed below:

1

Step 1: Inclusivity

To identify the relevance and importance of various issues, we referenced international standards and regulations as well as sustainable investment ratings and communicated with our global semiconductor industry peers and stakeholders. We compiled a list of 21 sustainability issues that were related to our company. This year, we added "Risk and Crisis Management issues" to the list, changed "Climate Change" to "Climate Strategies" and dropped "Work from home."

- **International standards and regulations:** GRI Standards, Sustainability Accounting Standards Board (SASB), SDGs, RBA, Task Force on Climate-related Financial Disclosures (TCFD), and Task Force on Nature-related Financial Disclosures (TNFD)
- **Sustainability investment assessments:** Dow Jones Sustainability Indices (DJSI), Climate Disclosure Project (CDP), MSCI ESG Index, and FTSE4Good Emerging Index
- **Global semiconductor industry:** Benchmarking sustainability policies and practices from semiconductor companies listed on the DJSI.
- **Stakeholder engagement:** Analyses of online media reports and regular/occasional stakeholder communication to evaluate stakeholders' perceptions of sustainability issues.

2

Step 2: Materiality

We comply with the GRI Standards and base the materiality of issues on their importance to stakeholders, impact on the company's operations, and impact on the external environment. We collect our stakeholders' feedback through daily communication and questionnaires to help senior managers determine the impact of various issues on company operations. Functional unit supervisors are invited to identify sustainability-related impact and determine the materiality and relevance of issues.

2,904 Stakeholders concerns

The degree of concern from stakeholders is a key factor in the process of determining the significance of our material issues, and the process is an important channel for us to communicate with our external stakeholders. This year, we designed a questionnaire on stakeholders' degree of concern about sustainability issues that drew a total of 2,904 stakeholder responses. The respondents included employees (1,589), customers (105), shareholders (31), suppliers/contractors (889) and members of the government (53), industry unions/ associations (32), NGOs (36), media (31), and communities (138).

175 Participants in the operational impact survey

Integrating care for the environment, society, and governance (ESG) into core operations is a key driver of corporate sustainability. Therefore, we had a 175-member team of senior managers and CSC members participate in evaluating the impact of each sustainability issue on our revenue, risks, customer satisfaction, and employees' organizational identification, and ranking the level of each issue's importance according to its impact.

38 Participants in the sustainable development impact survey

We integrated the economic, environmental, and social impact assessment methodologies developed by the VBA, the Impact-Weighted Accounts research project of the Harvard Business School, and the LBG to identify 5 external economic impact, 6 external environmental impact, and 10 social impact external impact related to our company. Additionally, we formed a team made up of 38 supervisors from functional units and the core sustainability team that identified 11 material external impact related to our company.

3

Step 3: Responsiveness

Based on the results of the materiality assessments and using the GRI indicators, we fulfilled the disclosure requirements of our stakeholders regarding sustainability-related information. We continue to increase transparency with regard to our sustainability issues and efforts across various communication platforms such as our Sustainability reports, annual reports, TNFD report, TCFD report and website, covering aspects such as our policies, organization, practices, performance, and goals.

16 Material topics

The CSC initially identified 16 material topics that were of importance to stakeholders and impact the company's sustainable development and/or the external environment. After further deliberation, the assessment ultimately yielded 16 material issues. The CSC later confirmed these issues as material issues. Consequently, the issues formed the basis for the disclosures in our 2023 Sustainability Report and for formulating internal sustainable management goals.

23 Sub-issues

We derived 23 additional sub-issues (21 GRI-specific and 2 ASE Holdings-specific issues) for disclosure from the 16 material issues. Other issues with lower priority were also disclosed in the report.

4

Step 4: Impact

Commitment, actions, and goals are key factors through which we demonstrate our impact. We monitor and track the achievement rates of our goals, tying sustainability-related performance to the remuneration of our senior managers. We view corporate sustainability as one of our core operational factors, and strive for a corporate culture that values and practices sustainability from the top down.

41 Long-term goals

To elevate the impact of corporate sustainability, we have made commitments regarding various material issues and formulated 41 long-term sustainability goals for 2030. In addition, we promote and implement sustainability efforts at our factories worldwide every year.

4 Committees

Every year, the CSC tracks the progress of its goal completion via progress reports presented by colleagues from the relevant business units. Our three major subsidiary companies also organize internal CSCs on a regular basis to manage and track their progress and sustainability trends.

ASEH Impact Assessment–Monetary Valuation (TIMM)

Dimensions	Impacts	Impact Attributes	Impact Causes	Targets/Areas	Activities/Outputs	Values (US$ million)	Impacted Sustainability Issues
Tax	Profit Taxes	Positive	Operation	Society	Profit Taxes	505.4	Financial Performance
	Other Taxes	Positive	Operation	Society	Other Taxes	118.0	Financial Performance
Economic	Payroll	Positive	Operation	Internal Employees	Salary Benefits	3,314.6	Talent Attraction and Retention
	Profits	Positive	Operation	Internal Employees	Profit Distribution	1,218.4	Innovation Management and Sustainable Manufacturing
	Investment	Positive	Operation	Suppliers	Capital Expenditures	2,034.4	Innovation Management and Sustainable Manufacturing
	Intangibles	Positive	Operation	Supply Chain / Employees / Customers	R&D Activities and Intellectual Property Purchases	960.3	Innovation Management and Sustainable Climate Strategy
Environmental	Greenhouse Gases	Negative	Operation	Environment	Greenhouse Gas Emissions	-410.0	Climate Strategy / Energy Management
	Other Air Emissions	Negative	Operation	Environment	Air Pollutant Emissions	-1.4	Air Pollution Prevention
	Waste	Negative	Operation	Environment	Hazardous and Non-hazardous Waste	-5.4	Waste and Circular
	Water Use	Negative	Operation	Environment	Water Use	-67.5	Water Resource Management
	Water Pollution	Negative	Operation	Environment	Controlled Pollutants and Nutrient Salt (Phosphorus)	-18.0	Water Resource Management
	Recycle Water	Positive	Operation	Environment	Recycle Water	156.0	Water Resource Management
Social	Employee Engagement and Development	Positive	Operation	Internal Employees	Result of Employee Engagement Survey	239.8	Talent Development
	Education	Positive	Operation	Society	Amount Invested in Educational Activities	38.3	Social Involvement
	Social Cohesion	Positive	Operation	Employees / Community	Amount Invested in Public Welfare Activities	15.8	Social Involvement
	Employee Health and Safety	Positive	Operation	Internal and External Employees	Disability Benefit Amount / Cost of Health Screening and Insurance	45.0	Occupational Health and Safety
	Partnership	Positive	Supply Chain	Society / External Employees	Procurement Amount / Educational Training for Suppliers	4,492.3	Sustainable Supply Chain

ASEH Impact Assessment: Demonetization Model

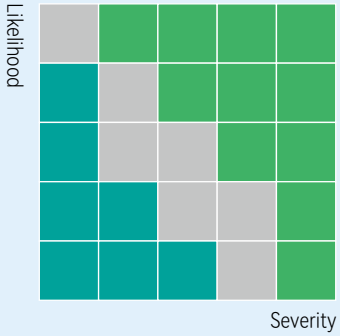
Define positive and negative impact

21 impact

Impact	Positive	Negative
Economy	4	1
Environment	2	4
People/ human rights	7	3

Definition of impact obtained from:
(1) The VBA
(2) The Impact-Weighted Accounts of the Harvard Business School
(3) The LBG
(4) ASE Holdings

Major impact analysis



Severity = (1)+(2)+(3)
(1) Degree
(2) Scope
(3) Irreparability

11 significant impact

- + Assists industrial technology development
- + Creates output value for upstream vendors
- + Increases investors' financial capital
- + Generates tax revenue
- + Green products
- + Renewable energy
- + Affordable products
- - Resource consumption
- - Natural resources depletion
- - GHG emissions
- - Creates procurement-induced environmental impact

Economic impact	+ Positive impact - Negative impact
Environmental impact	
Impact on people/human rights	

Sustainability issues with significant impact

Degree of impact	Sustainability issues
Extremely high	Sustainable Supply Chain
	Innovation Management and Sustainable Manufacturing
	Climate Strategy
	Energy Management
	Waste and Circular
High	Customer Relationship Management
	Air Pollution Prevention
	Risk and Crisis Management
	Social Involvement
	Regulatory Compliance
	Business Ethics
	Water Resource Management
Significant	Information Security Management
	Biodiversity
	Talent Attraction and Retention
	Human Rights
	Diversity and Inclusion

ASEH Double Materiality

Doubly material issues		Operational impact				Impact on the economy, environment, and people/human rights										
		Revenue	Risks	Customer satisfaction	Employees' organizational identification	Assists industrial development (positive)	Creates output value for upstream vendors (positive)	Generates tax revenue (positive)	Increases investors' financial capital (positive)	Green products (positive)	Renewable energy (positive)	Affordable products (positive)	Resource consumption (negative)	Natural resources depletion (negative)	GHG emissions (negative)	Creates procurement-induced environmental impact (negative)
Economic	Regulatory Compliance		0					0							0	
	Business Ethics							0	0							
	Customer Relationship Management	0		0		0	0		0	0						
	Sustainable Supply Chain	0		0		0	0		0	0	0	0		0		0
	Innovation Management and Sustainable Manufacturing	0		0		0	0		0	0		0		0		0
	Information Security Management		0	0		0										
Environmental	Water Resource Management										0		0			
	Climate Strategy							0			0		0		0	0
	Energy Management									0	0		0	0	0	
	Waste and Circular									0	0		0	0		0
Social	Occupational Health and Safety		0		0											
	Talent Attraction and Retention				0							0				
	Talent Development				0											
	Human Rights				0							0				
	Diversity and Inclusion				0							0				
	Social Involvement							0	0			0				

* "O" means that the major issue in the left column impacts company operations and has sustainability-related impact on the external environment.

ASEH Material Issue Rankings

ESG material issues	Rank[1]	Impact on company operations[2]	Degree of concern from stakeholders[2]	Impact on sustainable development[2]
Sustainable Supply Chain	1	**	**	***
Innovation Management and Sustainable Manufacturing	2	**	**	***
Human Rights	3	*	***	*
Customer Relationship Management	4	**	**	**
Talent Attraction and Retention	5	*	**	*
Diversity and Inclusion	6	*	*	*
Waste and Circular	7		***	***
Occupational Health and Safety	8	**	***	
Energy Management	9		**	***
Social Involvement	9		***	**
Climate Strategies	11		*	***
Talent Development	12	*	**	
Regulatory Compliance	13	*		**
Business Ethics	13		*	**
Information Security Management	13	**		*
Water Resource Management	13		*	**

[1] Principles for ranking issues: 1) Whether the impact on company operations, degree of concern from stakeholders, and impact on sustainable development of an issue intersect each other; 2) The total number of times that the issue was ranked in the top 5 in terms of impact on company operations, degree of concern from stakeholders, and impact on sustainable development; 3) the total number of asterisks (*) (total of the impact levels)

[2] ***Extremely high impact/extremely high degree of concern; ** high impact/high degree of concern; *moderate impact/ moderate degree of concern

ASEH Material Issues and Enterprise Risk Management (ERM)

Material Issues	Potential Risks	Risk Level[1]	Risk Mitigation and Response Measures[2]
Regulatory Compliance	The uncertainty of regulatory changes in water pollution control measures.	Medium	Enhancing the education and training on the prevention and management of water pollution.
	Emerging environmental topics and requirements - compliance with the schedules of environmental regulations and the assessment of carbon fees.	Medium	Ensuring that greenhouse gas inventory disclosures are complete and accurate, and continuing to monitor regulatory requirements and developing response measures.
Business Ethics	Fraudulent behaviors and inadequate resources for investigating ethical violations.	Medium/Low	Establishing channels for reporting employee grievances and unlawful behaviors, and reinforcing the internal audit system.
Customer Relationship Management	Failure to promptly address the demands of customers and the market.	Medium	Reviewing the company's operating policies and product strategies on a regular basis, and strengthening the management of quality control to secure customer orders.
Sustainable Supply Chain	Inability to identify alternative raw materials.	Medium	Negotiating with respective customers on excess material orders.
	Supply chain disruptions caused by geopolitical developments.	Low	Diversifying risks through the establishment of alternative suppliers, and ensuring that suppliers develop robust plans to prevent supply disruptions.
	Over-reliance on a single supplier.	Medium	Continuing to assess alternative replacements for indirect material and chemicals.
Innovation Management and Sustainable Manufacturing	Patent deployment is not in line with the company's business goals.	Medium	Establishing annual targets for R&D patent output that are consistent with the company's business goals and intellectual property management.
	The inability to launch new products timely to meet global market requirements.	Medium	Aligning technology roadmaps and conducting quarterly technical meetings (QTR) with customers who are leading market players. Developing ASE roadmaps according to customer requirements. Conducting monthly application workshops between Central Engineering Integration (CEI) and Business Management teams to assess market trends and explore customer potential, formulate supplier strategies, and review the latest technical information from suppliers.
Information Security Management	Inadequate information security management.	Medium	Conducting routine review of security level access protocols. Ensuring the functionality of the centralized security information and event management (SIEM) and security operations center (SOC). Improving the capabilities of key stakeholders and users in working together to respond to cybersecurity threats. Conducting annual cybersecurity simulation exercises.
	Unauthorized disclosure of confidential information.	Medium	Implementing software and hardware updates and improvements, organizing cyber security education and training, obtaining ISO 27001 RC certification, and conducting annual cyber security desktop exercises.
Water Resource Management	The need to increase the percentage of recycled water.	Medium	Implementing robust wastewater recycling.

[1] High: the impact on the company's finance/business continuity management/reputation is high, and the probability of occurrence is likely
Medium: the impact on the company's finance/business continuity management/reputation is medium, and the probability of occurrence is possible
Low: the impact on the company's finance/business continuity management/reputation is low, and the probability of occurrence is unlikely

[2] For more information, please see relevant chapters and sections of this report

Material Issues	Potential Risks	Risk Level[1]	Risk Mitigation and Response Measures[2]
Climate Strategy	Supplier strategy and capabilities in sustainable development are inadequate.	Medium	Close examination of supplier qualifications should be conducted to ensure alignment of procurement objectives. Supplier contracts should be drafted in consideration of the company's interest.
	Uncertainties surrounding extreme weather, water risks, and carbon-related laws and regulations.	Medium	Completing carbon inventories and implementing energy-saving and carbon-reduction initiatives in accordance with prevailing laws and regulations, and within the timeframe stipulated.
	Absence of investments in the development of low-carbon materials and source reduction technologies are obstacles to achieving Net Zero goals.	Medium	Promoting the adoption of the circular economy, and organizing company seminars to facilitate the exchange of innovative environmental technologies.
Energy Management	Abnormal operation of power systems.	High	Establishing schedules and feasible manufacturing procedures in accordance with the specifications and requirements.
	Abnormal power supply and power rationing from external units caused power supply interruptions.	High	Monitoring Taipower's efforts to improve irregularities through the regional water and electricity team.
	Failure to implement energy-saving measures.	Medium	Implementing internal energy management protocols.
	Uncertainty concerning the procurement of renewable energy.	Medium	Implementing energy-saving programs and setting a power savings target of 2% or higher.
Waste and Circular	Waste management vendors are not well-equipped with the necessary resources to meet the increasingly stricter waste regulations.	Low	Conducting routine audits, promoting waste recycling initiatives, and improving the self-processing capabilities of factories.
Occupational Health and Safety	Absence of independent evacuation routes in the production and office areas violate building safety codes.	Medium	Improvements had been completed with the reconfiguration of the fire safety zones in the offices and production lines on each floor, along with the installation of fire doors and separate passageways.
	Citations issued and/or suspensions imposed due to occupational safety and health lapses in the construction of new factories.	Medium	Conducting regular improvement reviews with the construction department responsible for the the safety at new construction sites.
	Penalties and/or suspensions imposed due to incidents of severe occupational injuries at the factory.	Medium	Conducting periodic reviews of contractors, and mandating the implementation of safety protocols.
	Occupational injuries sustained by employees.	Medium	Conducting regular building inspections and on-site visits, conducting daily on the ground inspections of factories, promoting work safety campaigns regularly, adopting the Bypass safety control protocol, and developing source management of automated transport equipment.
Talent Attraction and Retention	Shortage of manufacturing manpower.	Medium	Implementing strategies to enhance departmental retention rate. Introducing incentive programs for critical talents and improving the conditions of personnel working long hours.
	External poaching of critical talents and AI experts.	Medium	Implementing critical talent programs and establishing a staff back-up system. Establishing an AI academy, offering incentives for the successful initiation of AI projects and expediting the promotion of AI talents, implementing robotic process automation (RPA) to reduce the workload of engineers, and conducting large-scale external training courses to assist IT personnel in acquiring new knowledge and technologies.
Human Rights	Potential risks associated with employees handling irregular workloads, and labor disputes among contracted personnel.	High/Low	Conducting audits of vendors and requesting for improvements.

Material Issues, Corresponding GRI Topics, and Degree of Involvement with the Impact

Material issues		GRI topics	Where the impact occurs			Our involvement with the impact		
			Procurement	Manufacturing facilities	Communities	Direct	Indirect	Business
Economic	Regulatory Compliance	Environmental Compliance (307) and Socioeconomic Compliance (419)	v	v		o		
	Business Ethics	Anti-corruption (205) and Anti-competitive Behavior (206)	v	v		o		
	Customer Relationship Management	Customer Privacy (418)		v				o
	Sustainable Supply Chain	Procurement Practices (204), Supplier Environmental Assessment (308) and Supplier Social Assessment (414)	v					o
	Innovation Management and Sustainable Manufacturing	Topics formulated by ASE Holdings itself		v		o		
	Information Security Management	Topics formulated by ASE Holdings itself		v		o		
Environmental	Water Resource Management	Water and Effluents (303)		v	v	o		
	Climate Strategy	Economic Performance (201) and Energy (302)		v	v	o		
	Energy Management	Energy (302)		v		o		
	Waste and Circular	Waste (306) and Materials (301)		v		o		
Social	Occupational Health and Safety	Occupational Health and Safety (403)		v		o		
	Talent Attraction and Retention	Employment (401) and Labor/Management Relations (402)		v		o		
	Human Rights	Forced or Compulsory Labor (409) and Supplier Social Assessment (414)	v	v		o		o
	Diversity and Inclusion	Diversity and Equal Opportunity (405)		v		o		
	Social Involvement	Topics formulated by ASE Holdings itself			v		o	

Stakeholder Communication Table

Stakeholder	Communication Mechanisms[1]	Responsible Units	2023 Issues of Concern[2]	2023 Key Communication Outcomes[3]
Customers	• Customer quarterly business review meetings • Customer audits • Customer service platforms • Technical forums	• COO Office • Sales Offices	• Customer Relationship Management • Sustainable Supply Chain • Data and Privacy • Information Security Management • Innovation Management and Sustainable Manufacturing	• We achieved a customer satisfaction rating of 92%in 2023, which met our target of 90%.
Employees	• GM/plant manager's mailbox • Intranet websites/bulletin boards/ display walls • Seminars/employee forums • Employee engagement surveys • Service/complaint hotlines	• CAO Office • HR Departments	• Human Rights • Talent Attraction and Retention • Occupational Health and Safety • Talent Development • Diversity and Inclusion	• In 2023, more than 1,700 seminars/employee forums were held, including 220 sessions for new employees, 533 sessions for foreign workers, 78 instances of regular labor-management negotiations and 927 sessions for regular employees. • The number of internal employee complaints totaled 778, all of which were closed satisfactorily. • In 2023, 95.1% of our employees participated in the employee engagement survey, and 77% of the subjects responded to the sustainability engagement survey. The next survey will be conducted in 2025.
Shareholders	• Annual and quarterly financial reports • Quarterly earnings conferences • Annual shareholders' meetings • Quarterly institutional investors' conferences	• Company spokesperson • Investor Relations Department, CFO Office	• Innovation Management and Sustainable Manufacturing • Water Resource Management • Talent Attraction and Retention • Occupational Health and Safety • Energy Management	• In 2023, we held an annual shareholders meeting and 4 quarterly earnings conferences, and attended 15 institutional investor conferences to communicate economic, environmental, and social issues to our shareholders. • In 2023, our consolidated operating revenue was NT$581.9 billion, a decrease of approximately NT$89 billion or 13.3% compared with 2022.
Suppliers / Contractors	• Supplier questionnaire surveys • Supplier on-site audits • Annual supplier forums/supplier sustainability awards • Supplier capacity-building activities • Supplier information security evaluation	• Corporate CSR Division • Group Procurement Department • IT Departments	• Occupational Health and Safety • Sustainable Supply Chain • Business Ethics • Customer Relationship Management • Data and Privacy	• More than 600 suppliers completed the survey, while 201 suppliers underwent onsite/remote audits or RBA VAP. • More than 5,500 suppliers participated in sustainability forums/training workshops. • We completed third year annual on-site audits for our first year Supplier Sustainability Award winners (one for each of the 3 suppliers). • For the second year Supplier Sustainability Awards, we selected one supplier for the Low Carbon category and one for the Circular category. • We completed written information security evaluations of 76 suppliers.

[1] We communicate with each stakeholder at irregular intervals unless otherwise indicated
[2] Issues of concerns were selected from the results of our survey and other forms of communication
[3] For more information, please see relevant chapters and sections of this report

Stakeholder	Communication Mechanisms[1]	Responsible Units	2023 Issues of Concern[2]	2023 Key Communication Outcomes[3]
Government	• Communication meetings/forums/seminars or conferences held by government authorities • Proactive dialogue with government authorities • Reporting through government portals	• Public Affairs Division, CFO Office • CAO Office	• Occupational Health and Safety • Social Involvement • Business Ethics • Water Resource Management • Air Pollution Prevention	• The Environmental Safety and Health (ESH) Committee-Assembly and Test Working Group was formed by our company together with our industry peers to address industrial safety and environmental issues pertaining to the semiconductor industry in Taiwan. The group analyzes trends and developments in international law to provide references for government agencies to formulate policy and regulatory amendments related to the semiconductor assembly and testing industry, and to assist the competent authorities in formulating regulatory proposals that align with current and future industry developments.
Community (incl. NGOs and media)	• Community perception surveys and needs assessments • Communication meetings/forums/seminars held by NGOs • Volunteer activity cooperation with NGOs • Press releases • Spokesperson interviews • Company website	• Public Affairs Division, CFO Office • CAO Office • HR Department	• Waste and Circular • Social Involvement • Air Pollution Prevention • Water Resource Management • Climate Strategy	• We held a press event for the media and non-profit foundations, and organized forums and facility visits for concerned professionals to learn about the technologies behind semiconductor manufacturing and our achievements in environmental protection. • We contributed approximately US$1.86 million in support of environmental conservation programs, charitable activities, and cultural and educational programs through collaboration with 60 NGOs.
Industry Unions/ Associations	• Organizational member conference • Technology forums held by industry unions/ associations	• CAO Office • Subsidiaries	• Energy Management • Occupational Health and Safety • Customer Relationship Management • Innovation Management and Sustainable Manufacturing • Data and Privacy	• We engaged over 140 industry unions, associations and organizations, and international industry alliances, and contributed approximately US$0.9 million to public policy and industrial development. • Our executive serves as the vice chair of the SEMI Global Board of Directors, and the company is a founding member of SEMI [the Semiconductor Climate Consortium (SCC)]. In 2023, we worked with our member partners to promote the SCC Energy Collaborative (SCC-EC), which is committed to assisting the Asia-Pacific region in accelerating its development of low-carbon energy and working with the semiconductor industry chain to accelerate the implementation of the net-zero goal through methods such as low carbon processes, renewable energy, and circular economy.



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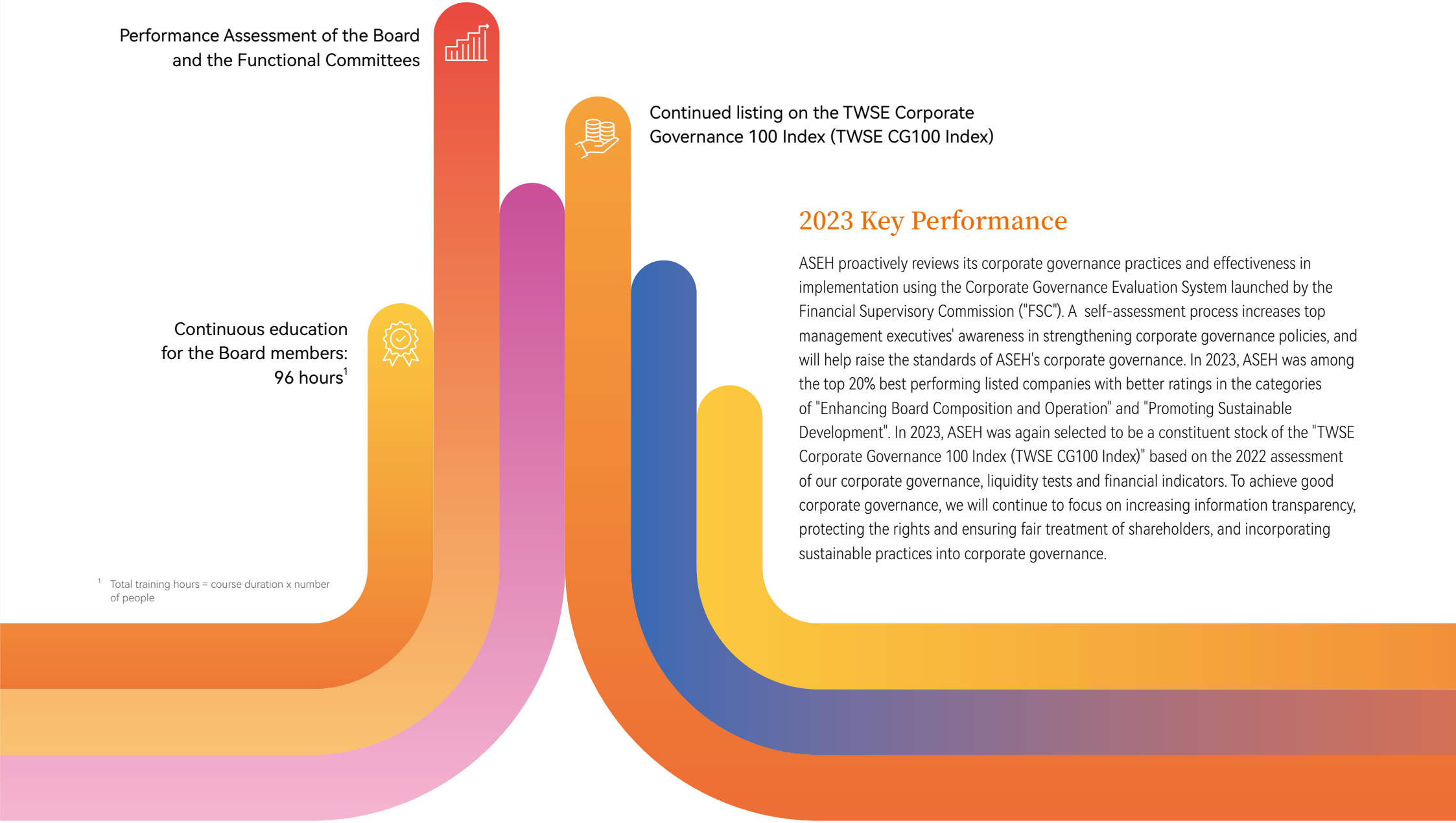
INTEGRITY AND ACCOUNTABILITY

ASEH commits to constructing sound corporate governance, conducting business ethically and complying with all laws and applicable regulations where we operate.

ASEH strives to establish an organizational culture of integrity and accountability, maintain high standards of ethics, effective corporate governance and accountability mechanisms in every aspect of its business, as well as conduct business based on the principle of social responsibility and business ethics to serve both the company's and shareholders' long-term interests.



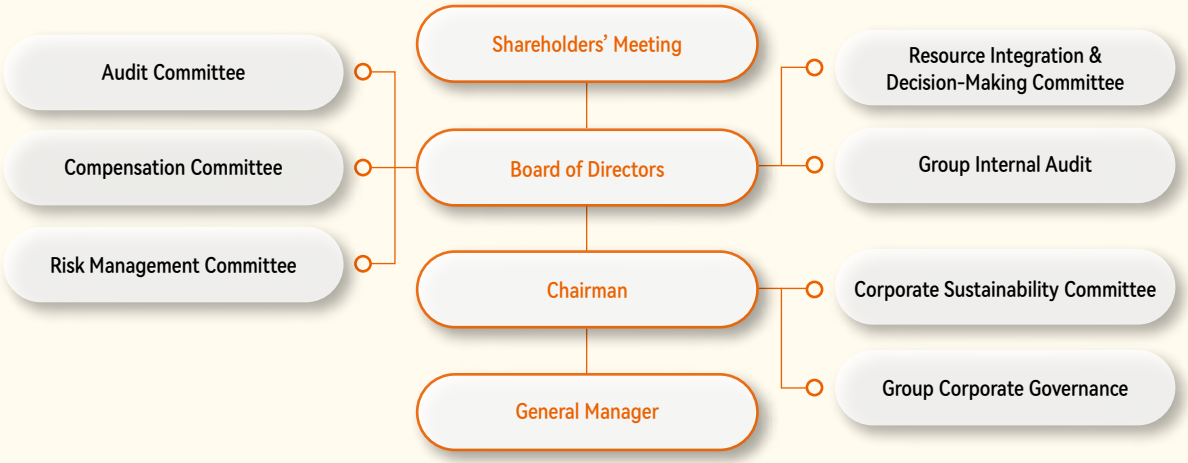
2023 Key Performance

ASEH proactively reviews its corporate governance practices and effectiveness in implementation using the Corporate Governance Evaluation System launched by the Financial Supervisory Commission ("FSC"). A self-assessment process increases top management executives' awareness in strengthening corporate governance policies, and will help raise the standards of ASEH's corporate governance. In 2023, ASEH was among the top 20% best performing listed companies with better ratings in the categories of "Enhancing Board Composition and Operation" and "Promoting Sustainable Development". In 2023, ASEH was again selected to be a constituent stock of the "TWSE Corporate Governance 100 Index (TWSE CG100 Index)" based on the 2022 assessment of our corporate governance, liquidity tests and financial indicators. To achieve good corporate governance, we will continue to focus on increasing information transparency, protecting the rights and ensuring fair treatment of shareholders, and incorporating sustainable practices into corporate governance.

[1] Total training hours = course duration x number of people

3.1 Board of Directors

The ASEH board of directors (the "Board") established the "Audit Committee", "Compensation Committee" and "Risk Management Committee"[1], to convene meetings and perform duties as prescribed in the charters and/or within applicable laws and regulations. The committees also submit proposals for Board resolution, and report the status of matters relating to their respective functions to the Board. In parallel, the Group Internal Audit Department conducts periodical audits and presents audit results to the Audit Committee and the Board. Group Chief Administration Officer (Du-Tsuen Uang) was appointed as the Corporate Governance Officer to facilitate the operation of the Board[2]. In addition, the Resource Integration and Decision-Making Committee was established to strengthen resource integration and decision-making efficiency across all subsidiaries, with the goal of maximizing shareholder and stakeholder value.



[1] For further details on the composition and responsibilities of the Audit Committee, Compensation Committee and Risk Management Committee, please refer to our 2023 Annual Report and Form 20-F "Item 6 Directors, Senior Management and Employees – Directors and Senior Management" at https://ir.aseglobal.com/html/ir_reports.php or ASEH's company website at https://ir.aseglobal.com/html/ir_committees.php

[2] For more details on the corporate governance affairs and training status of the Corporate Governance Officer, please refer to ASEH's company website at https://ir.aseglobal.com/html/ir_corpor.php

[3] For further details on succession planning, please refer to ASEH's company website at https://www.aseglobal.com/csr/integrity-and-accountability/succession-planning/

[4] The board of directors of ASEH has been elected in the shareholder's meeting in June 2024. The fourth board of directors will consist of nine directors, including three independent directors

[5] Independent directors are as defined in Rule 10A-3 under the U.S.A. Securities Exchange Act of 1934 as well as defined by the Regulations Governing Appointment of Independent Directors and Compliance Matters for Public Companies by Taiwan FSC

[6] For further details on directors' attendance of meetings and information regarding conflict of interest, please refer to our 2023 Annual Report

Structure and Responsibilities of the Board of Directors

The Board is the highest governing body of ASEH. Jason Chang is the Chairman of Advanced Semiconductor Engineering Inc. ("ASE") since ASE's listing on the Taiwan Stock Exchange in 1989. He is also the Chairman of ASEH since its founding in April 2018 and the Chair of the Resource Integration and Decision-Making Committee since 2021. As a strategic leader, the Chairman has led the company through consolidating core businesses, tackling challenges, and creating new business opportunities, to achieve market leadership in the semiconductor assembly and test industry. ASEH has developed a management succession plan and regularly evaluates the succession planning progress to ensure the company's sustainability[3].

The third Board consists of thirteen members, each serving a three-year term[4]. Three of the members are independent directors[5]. In addition to the scope of authorities and duties granted by or in accordance with the Taiwan's Company Act and ASEH's Articles of Incorporation on Shareholders Resolutions, the Board is actively engaged in the supervision of the overall operations of the company, business strategy formulation and development, risk identification in operation, finance, taxation, and overseeing, planning and implementation of ASEH's corporate sustainability.

In 2023, a total of twelve Board meetings were convened and attended by three independent directors in their supervisory capacity. The average Board meeting attendance rate was 94%. To manage and avoid conflicts of interest, directors or the corporates they represent involving conflicts of interest which may jeopardize the interest of the company, are not allowed to participate in the discussions, exercise their votes, nor vote on behalf of other directors[6].

Diversity of the Board of Directors

ASEH's Corporate Governance Best Practice Principles lists the guidelines, management objectives and goals for selecting the Board[1] and takes into account diverse and complementary factors such as: gender, age, nationality, culture, professional background and industry experience[2]. Members of the Board come from different professional backgrounds with global market perspectives and possess the abilities to conduct risk oversight.

Continuous Education for Board Members

To expand the knowledge and competencies of our board members to effectively respond to evolving global and domestic corporate governance and sustainability challenges, a robust board education program was put in place. Based on industry requirements, educational and experience background of board members as well as the results from the performance evaluation of the Board, we facilitate the board members with the course planning and activities. As a result of corporate risk assessments and observations of global trends, a series of executive workshops covering topics such as corporate governance and trend of global semiconductor industry have been organized for board members in 2023. From time to time, board members attend courses organized by external parties according to their needs. For example, in 2023, some directors have additionally taken courses on sustainable trends and laws, intellectual property rights, digital technology and artificial intelligence to fulfill their authority to lead and supervise company strategies. ASEH board members have continued to participate in continuous education on corporate governance and sustainability during their tenure, averaging more than the regulatory requirement of 6 hours per director per year[3].

Board Participation in Sustainability Governance

ASEH Board of Directors has direct oversight and management of the company's ESG performance, and the authority to make decisions. In 2023, the Board passed the following resolutions – a) donating NT$100 million to environmental causes in Taiwan[4], and b) approved amendments to multiple policy documents pertaining to corporate governance, risk management, biodiversity, health and safety management, and executives compensation. The Corporate Governance Officer is responsible for consolidating and reporting to the Board on company-wide developments covering - GHG inventory, social enterprise, sustainable development, stakeholder engagement, regulatory compliance, ethics, risk management, information security, and intellectual property management. The company's CSC are 100% ASEH Board members (including the Chairman of the Board). The committee presides over annual CSC meetings and oversees the risks and opportunities, development roadmaps, and outcomes of the company's ESG performance.

Board Performance and Remuneration

We have formulated remuneration policies for our Board member and top management to support strategy of sustainable business. The Compensation Committee evaluate the remuneration of directors and management on a regular basis according to the corporate governance trend report and the overall remuneration market competitiveness report. In addition to individual performance of current year, the remuneration of top management is also determined based on the achievement of the company's financial and relative financial[5] performance targets. ASEH has engaged third-party consultants to provide professional expertise backed by data from global research to help the Compensation Committee formulate and manage the Company's remuneration structure.

In August 2021, the shareholders' meeting resolved to issue restricted stock awards as part of the top management's variable compensation package based on the integration of ESG metrics in greenhouse gas emission and water withdrawal intensity with the company's financial performance (consolidated operating revenue, consolidated gross profit and gross profit margin, consolidated operating profit and operating profit margin). Adopting an incentive plan that links ESG to financial results demonstrates ASEH's commitment to sustainable actions and results, while pursuing strategic business goals. The regular shareholders' meeting has approved the issuance of new restricted stock awards in June 2024.

[1] For further details on the status of directors' diversity and management objectives and goals achieved, please refer to ASEH's company website at https://cms.ase.todayir.com.tw/html/client_tw/ase/attachment/20240723170036268852316_en.pdf
[2] For further details on the composition of the Board, and professional backgrounds and industry experiences of Board members, please refer to 2023 Annual Report "Ch. 3. Corporate Governance Report" or 2023 Form 20-F "Item 6. Directors Senior Management and Employees — Directors and Senior Management"
[3] For more detail on continuous education for board members, please refer to 2023 Annual Report "Ch. 3.4 Corporate Governance"
[4] Since 2014, ASE has donated NT$100 million annually and the program continue after the establishment of ASEH
[5] Relative financial performance targets such as revenue growth rate, etc.

To enhance overall efficiency of the Board and to measure the performance of the Board on a yearly basis, individual members, and the functional committees with respect to leading and supervising the company's performance, we established a Board of Directors evaluation system that incorporates non-financial indicators as well as sustainability-related elements. In accordance with the Rules of Performance Evaluation of the Board of Directors, we completed internal performance evaluations for the Board as a whole, and for individual directors and functional committees in 2023. Every three years, we commissioned an external professional independent institution to evaluate the Board as a whole by using questionnaires and on-site interviews, and specific recommendations were provided. Such performance evaluation not only helps to enhance the Board's oversight functions and operational efficiency, but may also serve as a reference for directors' remuneration standards. The evaluation results were publicly disclosed on the company's website[1].

Remuneration for top management includes cash, stock options and restricted stock awards. The characteristics of the industry and the nature of the company's business are taken into consideration when determining the ratio of bonus payout based on the short-term performance of top management and the time for payment of the variable part of remuneration. Furthermore, we believe that the ownership of company shares by the directors who hold senior management positions help align their interests and actions with the interests of ASEH's shareholders; therefore, we formulated "Stock Ownership Guidelines" and updated minimum value of stock ownership in 2023. To enhance corporate governance and ensure the accountability of financial results, we also updated "Compensation Recoupment Policy" in 2023 by expanding the scope of the policy to reserve the right to cancel and require reimbursement of any variable compensation received by the top management to the extent permitted by applicable laws. These two important documents were publicly disclosed in ASEH website[2].

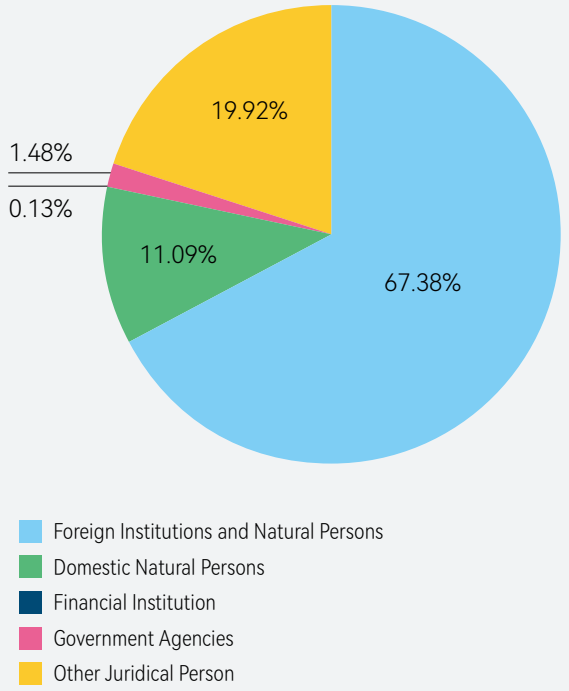
Shareholder Rights and Interests

To ensure shareholders' rights of being fully informed of, participating in and making decisions over important matters of the company, we have actively responded to TWSE's promotion of corporate governance related measures. These measures include a candidate nomination system for Board member elections, an electronic voting system, case-by-case voting at shareholder meetings, and the disclosure of voting results on a case-by-case basis. The shareholders' meetings are held in an effective, legal and convenient way for shareholders to exercise their shareholders' rights, encouraging shareholders participation in corporate governance and thereby leading to improved attendance at shareholders' meetings.

Information Transparency

We place great emphasis on the stakeholders' right to know, and faithfully comply with applicable regulations regarding information disclosure in order to provide them with regular and timely information on company financial conditions and business operations, major internal documents, and corporate governance status, etc. through diversified channels. These channels include the company website, Market Observation Post System (MOPS), annual report, SEC Filing Form 20-F, Sustainability Report, quarterly earnings release, press conference and annual shareholders' meeting. To treat stakeholders equally, we concurrently disclose the information of the preceding matters in both Chinese and English. This not only establishes a smooth and effective communication channel, but also grasps the pulse of the market, economy, society and environment through feedback from stakeholders.

Structure of Shareholders



[1] For further details on 2023 Board Performance Evaluation Results, please refer to ASEH's company website at https://ir.aseglobal.com/html/ir_board.php
[2] For more important documents related to ASEH, please refer to ASEH's company website at https://ir.aseglobal.com/html/ir_doc.php

3.2 Economic Performance and Tax Governance

ASEH Tax Policy

ASEH believes that being an honest and responsible taxpayer will help foster economic growth, contribute to business sustainability, reinforce our business value and positively affect our business partners.

ASEH is committed to:

1	2	3	4	5	6	7
Complying not only with tax laws and regulations, but also the spirit of the law, including the relevant international standards as well as duly completing accurate tax filings and complying with all tax payments in all the countries in which we operate.	Accounting for short-term and long-term tax influences in business decisions-making process.	Being transparent and disclosing tax information in accordance with applicable regulations and reporting requirements.	Complying with relevant tax payment on all profits earned from business activities conducted in the relevant jurisdictions and ensuring intra-group transactions are conducted at arm's length.	Not relying on tax havens or exploiting tax structures as a method of tax avoidance and aggressive tax planning.	Constructing an appropriate mechanism to assess tax-related risks and potential impacts connected to our global operations and constantly enhancing our tax governance activities.	Developing mutually trustful and respectful relationships with tax authorities and having open and honest channels of communication.

Our tax policy was reviewed and approved by our chief financial officer. The company's accounting department is responsible for income tax filing, and obtains approvals of the appropriate level of authorization before filing.

Consistent with our core values, ASEH is committed to fully meeting tax obligations while also being financially responsible for the potential effects that tax payments might have on our business activities and being supportive of corporate innovation, research and development, reinvestment and sustainable investment initiatives in accordance to government policy. As a multinational corporation, ASEH's tax contribution is international in scope and covers a wide range of public tax systems around the world.

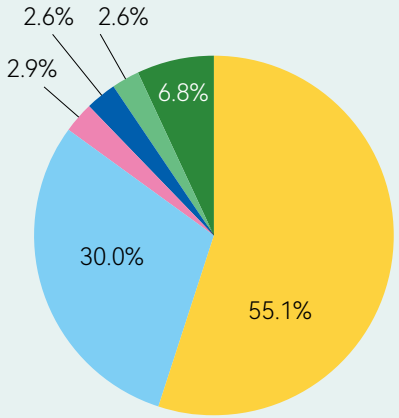
In view of the sophisticated nature of tax matters and the global scale that ASEH operates on, we continuously monitor and assess changes in relevant tax laws and regulations and implement internal training to ensure that employees have the necessary level of skill and awareness for tax issues. In addition to the internal training and guidance, we also have external tax advisors dedicated to advising us on material transactions and providing us with the foresight to mitigate the potential tax-associated risks. In addition to income tax, ASEH also contributes numerous other taxes including property tax, environmental tax and employment tax.

ASEH's global presence has spanned across Asia, Americas, Europe, and Africa and covered more than 20 tax jurisdictions, while ASEH's principal operating activities are conducted in Taiwan and China. In this regard, Taiwan and China contributed most of our operating revenues, profit before tax, income tax accrued for current year, and income tax paid. However, due to the variances in industrial development and tax regulations in Taiwan and China, the proportions of net profit before tax, income tax accrued for current year and income tax paid may not be equivalent to the proportion of revenue. As for other individual countries in which we operate, their proportions of the operating revenues, profit before tax, income tax accrued for current year, and income tax paid are relatively minor.

The pie charts below show the operating revenues, profit before tax, income tax accrued, and income tax paid by country in 2023.

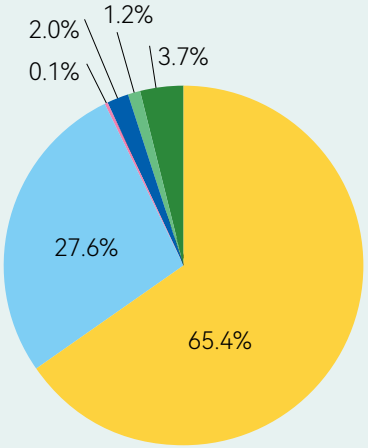
Operating Revenues

US$ 19 Billion
(NT$ 582 Billion)



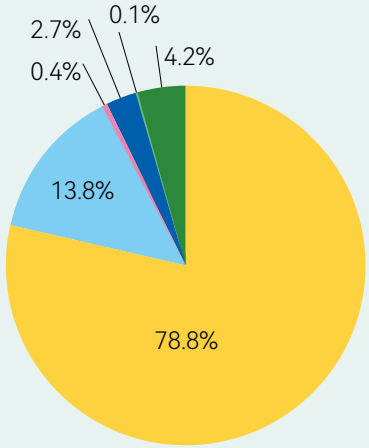
Profit (Loss) before Tax

US$ 1,392 Million
(NT$ 43 Billion)



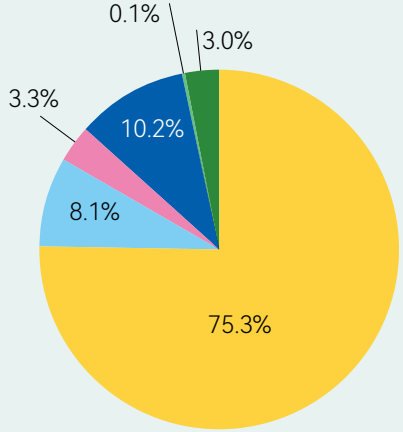
Income Tax Accrued

US$ 340 Million
(NT$ 10 Billion)



Income Tax Paid

US$ 505 Million
(NT$ 15 Billion)



Taiwan | China/Hong Kong | Mexico | South Korea | Vietnam | Others[1]

In 2023, our effective tax rate of 12.4% was lower than the industry average tax rate of 13.96% from SAM CSA Companion in "Semiconductors and Semiconductor Equipment" industry group. In Taiwan, the statutory income tax rate is 20.0% and the additional income tax rate on the unappropriated retained earnings ("URE") is 5.0%. Under IFRS, the URE tax should be recognized when profits earned; then in the following year, the company would do a tax reversal if earnings distributed. The above-mentioned effective tax rate of 12.4% was caused by a tax reversal from the substantial amount of 2022 earnings, which distributed in 2023. However, for the sake of reference, if under Taiwan GAAP, the effective tax rates were 21.2% in 2023, 20.1% in 2022, and 19.7% in 2021. Because under Taiwan GAAP, the company books the URE tax while deciding not to distribute the prior-year earnings, rather than treating the whole earnings as URE and booking the URE tax on the whole earnings and then doing a tax reversal for earning distribution in the following year.

In 2023, the effective cash tax rate of 36.3% was higher than both of the industry average cash tax rate of 13.82% and our effective tax rate of 12.4%. This was mainly because there are record-high profits and corporate income taxes for 2022, but the major part of 2022 taxes actually been paid while filing income tax returns in 2023. Meanwhile, our Korean subsidiary paid the income tax for a gain from the disposal of a China subsidiary. Therefore, our effective cash tax rate of 2023 was relatively higher.

[1] "Others" includes Singapore, Malaysia, Japan, U.S.A, Tunisia and European countries, etc.

3.3 Business Ethics

Policies and Specifications

The Board has successively approved and published ethical corporate management related regulations which clearly specify the policies and specification, behavior guidelines, operational procedures and grievance systems to prevent unethical behaviors. These policies aim to shape ASEH's culture of honesty and responsibility and to realize its commitment of compliance to the highest ethical standards in ASEH's overall business activities.

Organization and Authority

As the highest governance body of ASEH's business conduct and ethics, the CSC coordinates and supervises the establishment and implementation of the ethical corporate management policies and specifications. The CSC periodically reviews the promotion of business conduct and ethics and the compliance of policies and specifications, and reports to the Board on a yearly basis. The Corporate Governance Taskforce under the CSC of the three major subgroups is established to promote ethical policies and specifications to our global manufacturing sites and assists in managing and adopting appropriate policies and specifications to ensure ethical management in compliance with the requirements of local laws and regulations. Global manufacturing sites are responsible for planning the internal organization, structure, and allocation of responsibilities, formulating standard operating procedures and conduct guidelines in accordance with corporate policies and specifications, and promoting awareness and educational activities with respect to ethics policy in internal management and in daily operation. The Group Internal Audit is in charge of supervision to ensure the operating effectiveness of reporting system, and reports to the Audit Committee regularly every year.

Ethical Related Regulations	Code of Business Conduct and Ethics	Corporate Governance Best Practice Principles
Sustainable Development Best Practice Principles	Ethical Corporate Management Best Practice Principles	Procedure for Ethical Management and Guidelines for Conduct
Administrative and Practice Procedures to Prevent Insider Trading	Policy and Procedures for Complaints and Concerns Regarding Accounting, Internal Accounting Controls or Auditing Matters	Fair Competition and Antitrust Laws Compliance Policy
Guidance of Prevention of Corruption	Procedures for Handling Whistleblowing Cases of Unethical Conduct	Supplier Code of Conduct

Education and Promotion

To guide ASEH Members[1] and the company's stakeholders to better understand ASEH's business ethics standards, we set up "Code of Business Conduct and Ethics" area of the company website and disseminate our ethical related policies, guidelines, practices, and implementation status of the Board and management levels within the company. We also communicate ASEH's concept of business ethics and company's specific practices through education, promotion and online training and various methods. In addition, we retained Ernst & Young, an independent third party accounting firm, to verify our compliance with Code of Business Conduct and Ethics with respects to the matters on policy making, roles and responsibility, remuneration, and disciplinary action, etc. The statement of above engagement provided by Ernst & Young is made available on our company website[2].

We require all suppliers to abide by the ASEH Code of Business Conduct and Ethics and Supplier Code of Conduct. In addition to the "ASEH Supplier Code of Conduct Commitment Letter" signed by new suppliers, relevant guidelines and regulations are written in our procurement documents and announced on E-Hub, an electronic information exchange platform for suppliers, to ensure that all suppliers acknowledge the policies in all their transactions with ASEH. Over the years, we have organized annual supplier conferences and periodic workshops, forums, training sessions and monthly/quarterly/yearly appraisals to communicate with suppliers on our Supplier Code of Conduct, to ensure proper alignment in values and ethics.

2023 Programs and Implementation:

- **Education and training, advocacy and communication:**

1. The Administrative and Practice Procedures to Prevent Insider Trading of ASEH stipulate clearly the restrictions with regard to trading of shares by board members. Email reminders on the policy and regulatory compliance were sent out by the corporate governance officer to the board members prior to the blackout period when the Company released its quarterly and annual financial reports in 2023.
2. ASEH Corporate Governance Officer has duly reported to the board on the company's current ethical management and work plans on May 29, 2023.
3. The company has promoted its business code of conduct and ethical compliance reporting mechanism on the Group Audit Management System platform, which is accessible to our global business locations. This is intended to help employees understand when and where they can file a report or complaint. We also conduct in-person and online meetings with management and employees at our global business locations to inform them of the procedures for handling reports of unethical conduct. We optimize the reporting system to enhance the convenience for whistleblowers and encourage employees to proactively report unethical behavior. We are committed to investigating and handling every report in a fair and equitable manner, in accordance with the company's whistleblowing policy.
4. ASEH's business locations around the globe have conducted business practices and ethics related training to all employees through In person, online and e-mail communication, as well as announcement and dynamic advocacy to conduct, with the topics covered including ethical management, anti-corruption, trade secret, avoidance insider trading, information security, privacy, RBA Code of Conduct, and employee code of conduct at all business locations (162,792 participants clocked a total of 78,857 hours on the course). In total, 39,244 employees attended the courses related to the company's Administrative and Practice Procedures to Prevent Insider Trading and on applicable laws and regulations, completing 19,710 hours.

- **Risk assessment:**

1. All of our sites around the world have conducted business ethics risk assessment and developed corresponding action plan based on the identified risks. No major risks of violating business ethics have been identified.

[1] "ASEH Members" includes all employees, officers, supervisors and directors of ASEH, its subsidiaries and joint ventures
[2] For more detail, please refer to https://www.aseglobal.com/en/pdf/coc-agree-upon-procedures-report.pdf

Consultation and Report

We have established channel of consultation for ASEH Members and various internal and external reporting channels[1]. ASEH Members or any third party may report to the internal or external channels, either using their own identity or anonymously. Investigation and improvements were made according to related reported issues, emphasizing on the importance of business ethics and integrity by providing educational training (such as e-mail advocacy and online quizzes). We are committed to keeping the whistleblower's identity and reporting contents confidential, and protecting him/ her from any unfair treatment or retaliation as a result of the violation reporting.

ASEH received a total of 54 complaints in 2023, of which 35 lack sufficient information to conduct further investigation or were employee-related complaints that have been forwarded to the HR department to follow up. There were a total of 19 complaints related to unethical business behavior. Of which, 14 cases pertaining to unethical business behavior were substantiated after thorough investigations were conducted, with 1 corruption or bribery case, 1 secret divulgence case, and 12 discrimination or harassment cases. All necessary improvement measures have been taken, including taking disciplinary actions against violating employee, enhancing ASE members' awareness through trainings, conducting post-cases reviews to ensure the improvement measures taken to effectively prevent the recurrence of similar cases[2].

For the purpose to reinforce the whistle-blowing mechanism, ASEH has appointed an independent third party to assist in handling any reporting regarding insiders' misconducts and provide legal services in the subsequent investigation since 2018.

Number of code of business conduct and ethics violation reports filed in 2023

Number of cases received: 54

Not accepted[3]	Not related to ethics matters[4]	Related to ethics matters
22	13	19

Item	Not Breach	Breach[5]
Corruption or Bribery	0	1
Conflict of Interest	5	0
Insider Trading	0	0
Money Laundering	0	0
Fair Competition and Antitrust	0	0
Secret Divulgence	0	1
Privacy and Personal Data Protection	0	0
Discrimination or Harassment	0	12
Total	5	14

Processing Procedures for Violation Reporting

[1] For further details on internal and external report channels, please refer to ASEH's website https://www.aseglobal.com/csr/integrity-and-accountability/business-conduct-ethics/
[2] For more detail on improvement measures related to harassment and discrimination, please refer to 6.1 Talent Attraction and Retention
[3] Number of cases lack sufficient information to conduct further investigation
[4] Number of cases involved employees' personal complaints and were forwarded to the HR department to handle
[5] Number of breaches confirmed related to ethics matters after investigation

3.4 Risk Management

As a global company, managing risk is integral to ensuring business resilience and continuity. At ASEH, we have established a comprehensive risk management architecture in accordance with the Enterprise Risk Management (ERM) approach. In addition, we have incorporated the ISO 31000 Risk Management - Principles and Guidelines to manage risks in the day-to-day operations, together with systematic general risk control measures to form a comprehensive and effective risk management framework that also allows us to explore potential opportunities that may arise.

Risk Management Policies

The ASEH's Risk Management Policies and Procedures adopted by the board of directors in 2020, was designated as the highest level of foundation for the company's risk management. It explicitly mandates that risk management must be incorporated into both the company's business strategy and organizational culture, and that it is crucial to establish a comprehensive set of risk management procedures that undergo continuous review to ensure the effective control of risks.

Risk Governance Framework

The Governance level of Authority in Risk Management and Control – ASEH Board of Directors/ Risk Management Committee

As the highest decision-making authority of risk management and control, the board of directors of ASEH's. The members of the board have an extensive understanding of the industry landscape and experience in risk mitigation, to formulate risk management strategies that take into account both the company's business strategy and the overall environment. The Risk Management Committee, which consists of two independent directors and one committee member, is a functional committee established directly under the board. The committee is responsible for overseeing comprehensive risk management, implementing risk management policies and decisions of the board, coordinating and promoting inter-departmental risk management plans, supervising and managing the company and its subsidiaries' risk management and control mechanisms, and reviewing and compiling risk management reports and submitting them to the board of directors on a regular basis.

The Third Line of Defense – Group Internal Audits

The Group Internal Audit (GIA) office was established under the board of directors to preform annual audits (at least once a year) of business operations and management processes related to risk management in order to evaluate the completeness of risk identification, the accuracy of risk assessment, and the implementation status of response measures in all departments. The goal is to ensure that all risks are effectively controlled within acceptable limits. The scope of the audit includes both the company and its subsidiaries, and the audit findings are presented to the board of directors to ensure objective oversight and management of various risks, as well as reasonable belief that the company's goals have been met.

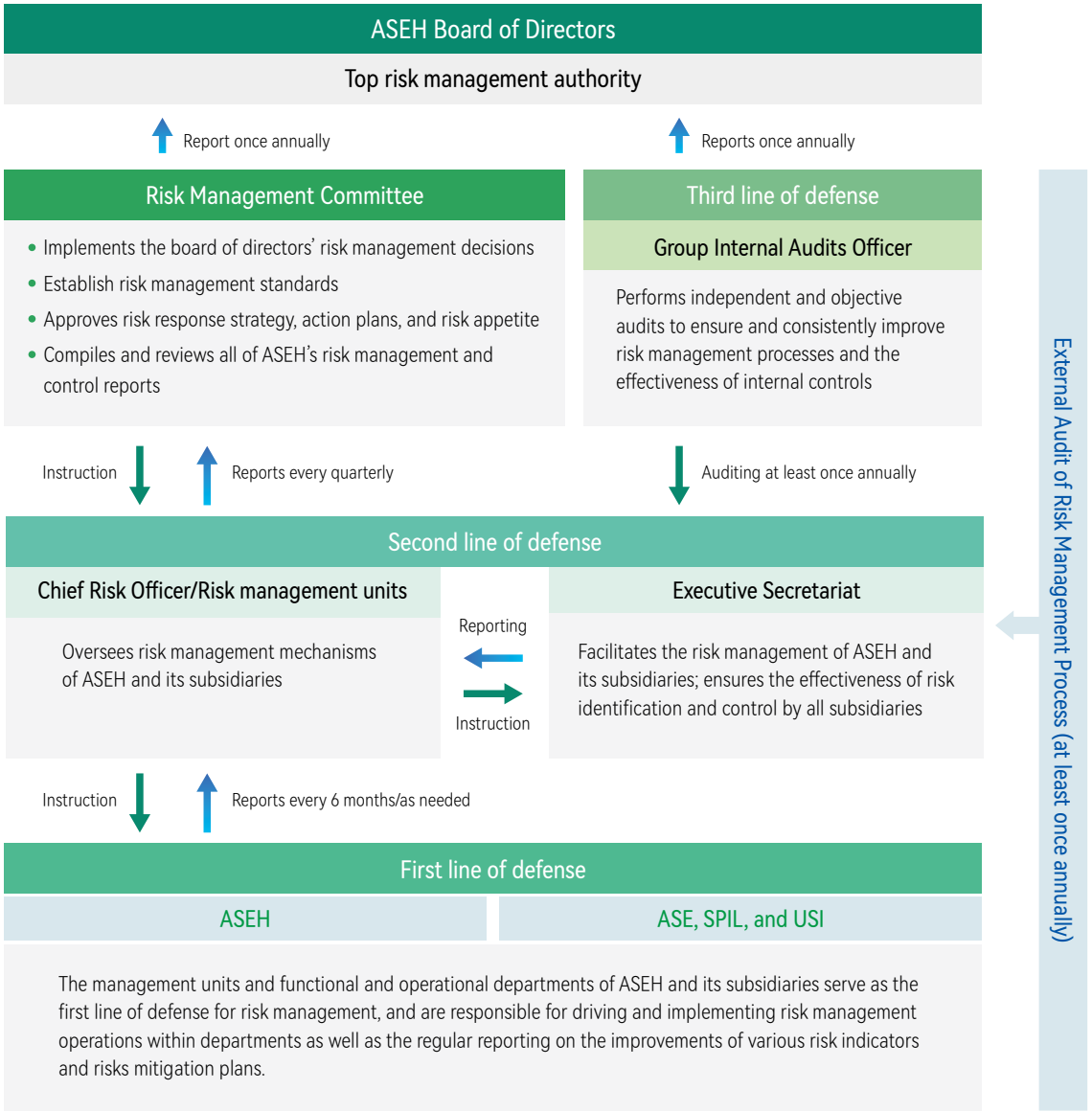
The Second Line of Defense – Chief Risk Officer

The board of directors has designated Du-Tsuen Uang, a member of the Risk Management Committee, as the Chief Risk Officer. Uang's responsibilities include providing guidance and oversight for the risk management efforts of the company and its subsidiaries, and submitting annual reports to the Risk Management Committee. The Risk Management Executive Secretariat facilitates the implementation of risk management measures, while different functional units and subsidiaries undertake risk management tasks in accordance with their respective business needs and responsibilities.

The First Line of Defense – Responsibility of all functional units of ASEH and its Subsidiaries

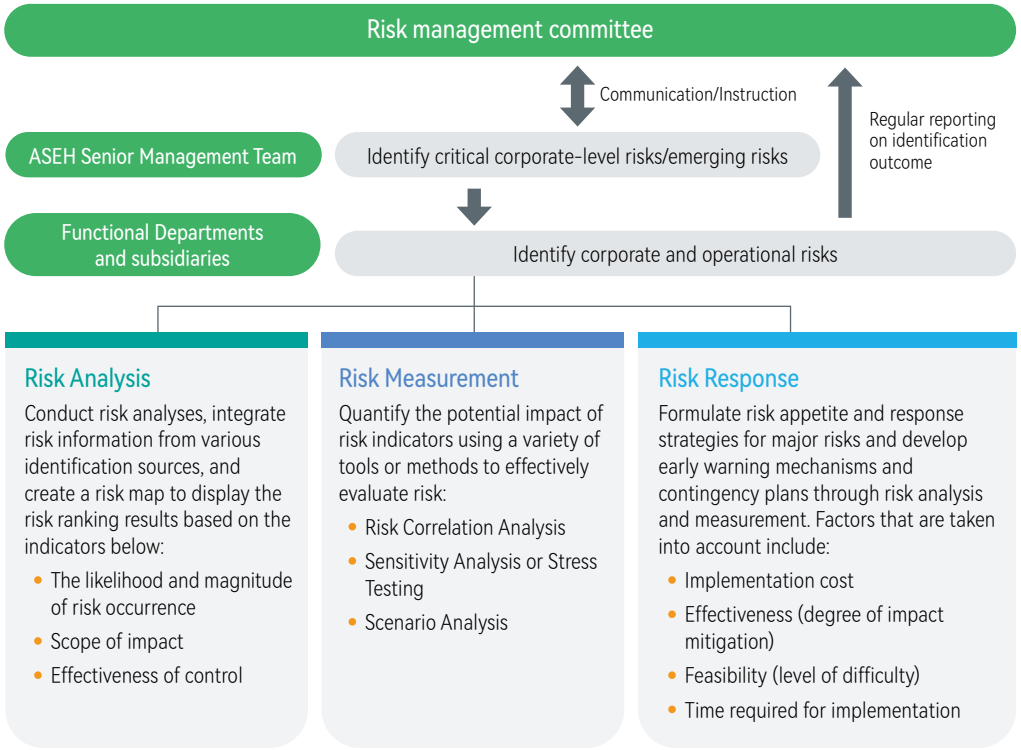
The successful implementation of risk management is contingent upon the integration of risk management principles into the day-to-day activities of all employees across the company. The company outlines the roles and responsibilities of the functional units and each unit is accountable for the risks arising from the day-to-day operations. We will continuously promote a corporate culture of risk awareness across the company to enable our employees to better understand, identify and manage associated risks. Furthermore, in order to effectively manage and control overall company risks, our subsidiaries are required to establish risk management committees that report to the Chief Risk Officer and Risk Management Committee.

Risk Governance Framework



Risk Identification Process

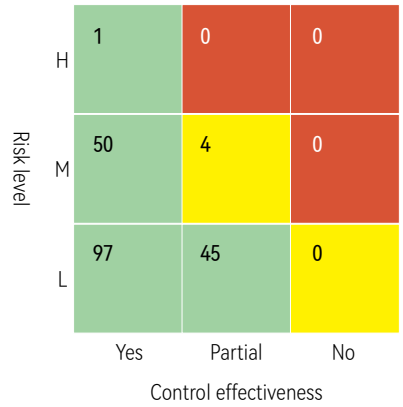
ASEH implements a top-down ERM approach to identify effectively critical operational and strategic risks. Each year, the senior management team meets to identify potential risks, while a bottom-up risk inventory mechanism is employed to identify corporate-level and operational-level risks in all subsidiaries. The risks identified by the senior management team and the risk management of each functional unit are integrated to form a comprehensive risk identification process. The identified risks are documented in the Risk Register and subject to evaluation to identify the key risks according to risk level and control effectiveness, and subsequently, to develop a risk response strategy or risk management plan accordingly. To clarify potential correlations between various risk factors, we employ the Correlation Analysis method to analyze them, formulate risk mitigation plans in the event that relevant impacts are found, and regularly monitor the implementation status and effectiveness to reduce the residual risks.



Risk Analysis

The functional risk management units identify potential risks encountered in their day-to-day operations and rank them using indicators such as the probability of occurrence, level of impacts, and control effectiveness. In 2023, the company identified a total of 197 risks from its annual risk identification and analysis. The distribution of the associated risk levels is indicated as follows:

ASEH Risk Matrix



Risk Measurement

Based on the results of the risk analysis, we perform annual risk measurement on major risk factors. Depending on the attributes of the risk factors, we then employ a variety of methods and tools, including Risk Correlation Analysis, Sensitivity Analysis or Stress Testing, and Scenario Analysis, to assess the impact of risks on the company or correlations between risks. This evaluation also determines whether it is necessary to adjust the level of risk appetite or tolerance.

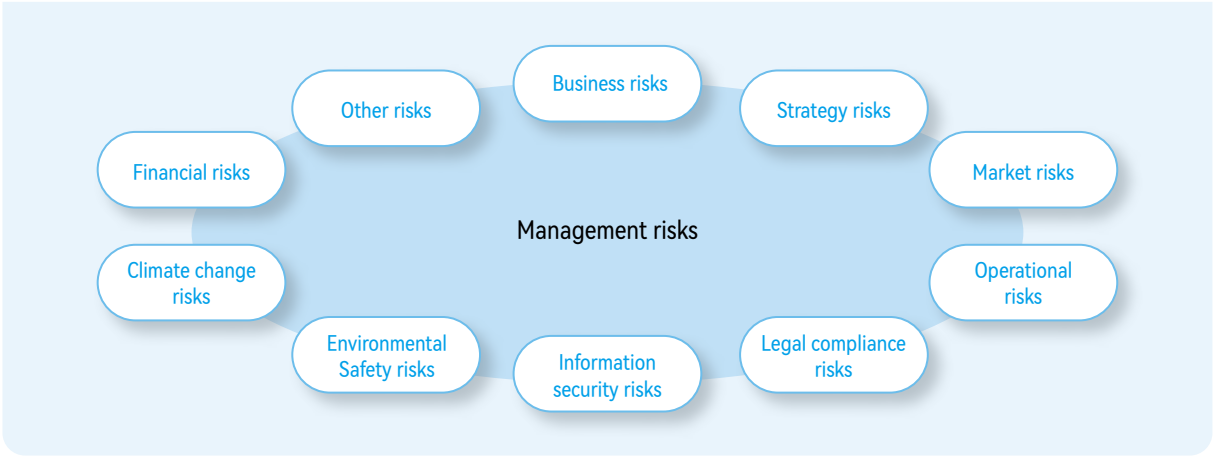
Risk Category	Measurement Methods/Tools
Risks associated with electric power price hikes by TAIPOWER	Scenario Analysis
Interest rate and exchange rate risks	Sensitivity Analysis
Supply chain risks	Stress Testing

Decision-making Process for Risk Tolerance and Response Strategies

After the risk factors have been identified and measured, the Chief Risk Officer, who serves as the second line of defense in the organization's risk management, is responsible for collating the proposed risk tolerance and response strategies before reporting the summary to the Risk Management Committee. The Risk Management Committee will then review and decide on the proposed risk tolerance and response strategies, and submit to the board of directors for their reference and subsequent execution. This entire process provides a firm basis for the implementation of risk control and response measures.

Risk Management Framework

	ASEH and functional units of subsidiaries	Chief Risk Officer	Risk Management Committee
Decision-making process for risk tolerance and response strategies	Identify potential risk impacts	Verify risk tolerance and formulate response strategies	Determine risk tolerance and response strategies
Management process for risk tolerance and response strategies	Regular review of various risks and their control points	Verify the risks that are subject to routine monitoring	Continuously monitor the effectiveness of risk management



Risk Response Measures

Energy management and renewable energy risks, as well as key talent risks, are among the primary risks for ASEH in 2023. The company's risk tolerance and mitigation measures were planned in accordance with the findings of the comprehensive risk assessment.

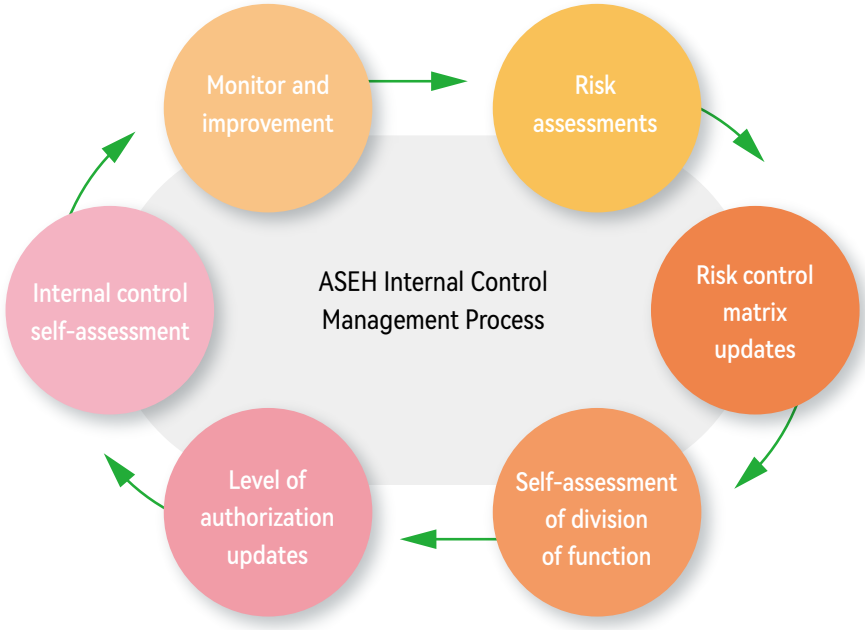
Risk Category	Mitigation Measures
Energy management and renewable energy risks	The company and its subsidiaries have established the Taiwan Renewable Energy Platform, which is currently engaged in the procurement of renewable energy. We are in the process of purchasing onshore (offshore) wind power and solar photovoltaics, as well as negotiating with the government for Round 3-1 and 3-2 offshore wind power. In other efforts to maximize our utilization of renewable energy, our overseas facilities have acquired RECs. Energy-saving and carbon-reduction competitions are also held at ASE Kaohsiung to encourage energy management through financial incentives.
Key talent risks	ASEH has established a talent management platform whereby the human resource teams of each subsidiary gather every 6 months to exchange information and integrate resources on talent recruitment, key talent retention and other human resource topics. We are also collaborating with universities and colleges to establish semiconductor training institutes to foster the development of talent in the semiconductor industry. Students are also encouraged to intern at our company to gain practical experience that will hopefully attract them to join the company after they graduate. ASE Kaohsiung has implemented quarterly financial incentives as a measure to retain key talent.

Verifying the Effectiveness of Risk Management

Internal Control

ASEH's Internal Control Policy complies with the *Regulations Governing Establishment of Internal Control Systems by Public Companies* established by Taiwan's Financial Supervisory Commission (FSC) and the pertinent regulations of the U.S. Securities and Exchange Commission. The policy, developed by senior management and approved by the board of directors, encompasses control operations at the corporate and operational levels. The objective is to establish a scope and standards that are applicable to the internal control systems of all of the company's business units and subsidiaries, thereby achieving effective design and implementation of internal controls, promoting the sound operation of the company, and to reasonably ensure accomplishment of the following objectives:

- Operational efficiency and effectiveness
- Transparency, reliability, timeliness, and legal compliance in reporting
- Compliance with the relevant laws and regulations



Risk-based Internal Audits

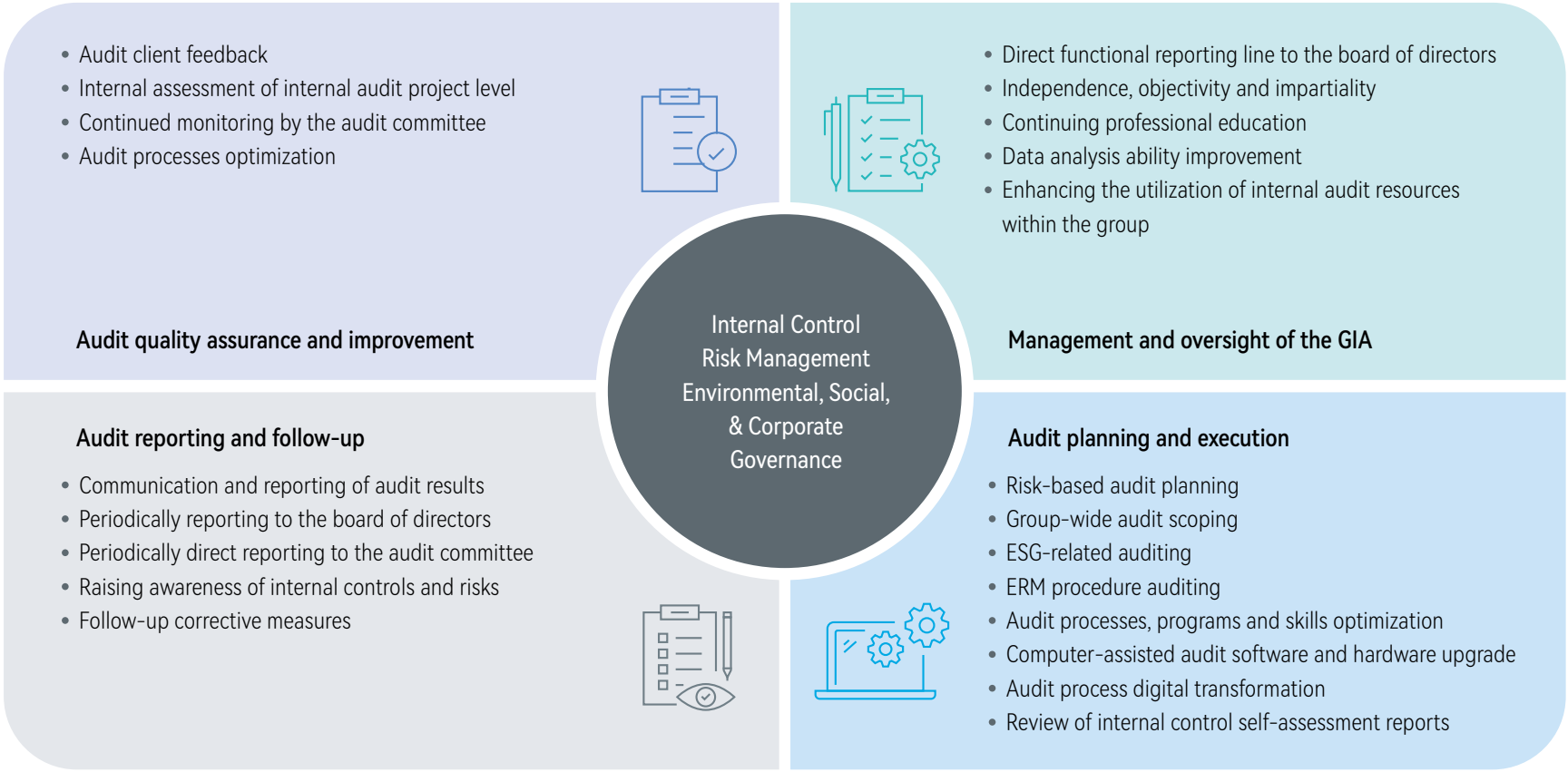
The Group Internal Audit (GIA) office was established under the board of directors to assist the board and management in reviewing and evaluating the effectiveness of the internal control system, measuring the effectiveness and efficiency of the company's operations, and assessing the reliability, timeliness, transparency, and legal compliance of relevant reports. In addition, the GIA office makes timely recommendations for improvements to reasonably ensure the continuous operating effectiveness of the internal control system, and to provide a basis for reviewing and revising the internal control system.

The GIA office comprises an internal audit officer and an appropriate number of qualified, dedicated internal auditors as indicated by business scale, operating conditions, management needs, and the provisions of applicable laws and regulations, to perform independent, objective audits. Besides possessing competent qualifications, internal auditors are required to enhance their audit expertise by undergoing continuous skills training on an annual basis. The GIA team is fully dedicated to enhancing the company's audit programs, procedures, and techniques, and developing audit tools to improve internal audit efficiency and effectiveness.

The GIA office utilizes a risk-based internal audit mechanism and performs internal audit activities in accordance with the annual audit plan approved by the board of directors. The scope of the internal audit includes the internal control systems of the company and its subsidiaries. By integrating audits with our corporate risk management strategies and practices, and conducting audits on risk management related business content and management processes at least once a year, the GIA office seeks to verify whether risk identification is complete, risk evaluations are accurate, and risk responses are implemented thoroughly. This ensures that all risks are contained within acceptable limits and provides reasonable assurance that the company's objectives will be achieved.

The internal control self-assessment reports, prepared by the company and its subsidiaries and reviewed by the GIA office on an annual basis, along with audit reports on findings of internal control system deficiencies and abnormalities identified by the GIA office serve as the primary basis for the board of directors and general manager to assess the overall effectiveness of the internal control system and to produce internal control system statements.

Internal Audit Management Process



External Third-party Audit Verification

ASEH maintains major operating bases throughout the globe to ensure that its customers receive the most comprehensive and timely service possible. In light of the evolving business landscape, we have introduced annual external risk management process audits by third-party organizations in addition to establishing rigorous internal audits and internal control systems. In addition to ensuring the effective implementation of the company's risk management processes, we also annually review the operation of relevant systems by referencing feedback from internal and external audit results. This continuous review aims to deepen and enhance the effectiveness of our risk management. In 2023, BSI Taiwan was appointed to verify the ASEH risk management system in accordance with the ISO 31000 Risk Management - Principles and Guidelines, ensuring that the company's risk management is in compliance with international standards, and demonstrating conformity.

Promoting a Risk Culture

Successful risk management requires a comprehensive and robust risk management structure, and a deep-rooted sense of risk awareness among all employees. To that end, ASEH has formulated a plan to promote corporate risk culture and implement initiatives across all levels of the company. Our objective is to gradually cultivate a shared understanding of risk management with employees, enabling them to identify potential risks and respond effectively to mitigate the company's overall risk.

Risk-based Financial Incentive System

ASEH believes that risk management requires active involvement from all levels of the company, especially from our employees. The ASEH Corporate Sustainability Committee (CSC) plays an active role in strengthening employee focus on risk management. The CSC is composed of members from the board of directors and the senior management, and is chaired by the Board Chairman. The CSC is responsible for overseeing various projects and reporting their implementation status to the Board, with the goal of balancing business growth with generating positive social and environmental impacts. The CSC presents the Board with a report at least once a year that addresses the following topics: (1) the status of sustainability development; (2) current policies, regulations, and organization; and (3) management policies, objectives, and future plans for material sustainability issues. The Board also supervises the implementation of the policies and evaluates the progress made.

The ASEH Corporate Sustainability Division functions as the executive secretariat of the CSC, assisting in the coordination and consolidation of resources and functional teams from our three main subsidiaries to drive sustainability through a comprehensive and interconnected strategy. At each subsidiary level - ASE, SPIL and USI have formed their respective corporate sustainability committee with multiple task forces. These task forces are led by the senior management team who meet regularly to discuss pertinent issues, highlight annual accomplishments and outcomes, and evaluate the advancement of short, intermediate, and long-term sustainability objectives. We have designed a compensation program (via the allocation of restricted stock options) that links the achievement of specific risk objectives and the Annual Objective Deployment (AOD) to individual performance evaluation. At USI, the management employs the Golden Circle concept whereby risk factors that may have a significant impact on operations and production are analyzed and monitored. The company then rewards business units that have demonstrated effective risk control. On the other hand, ASE Kaohsiung has initiated team competitions centered on the management of risks associated with energy conservation and carbon reduction with financial rewards given to best performing teams.

Risk Education and Training

ASEH adopts a dual-prong top-down and bottom-up approach to risk management. The company continues to enhance the management's awareness of risk management and places great emphasis on demonstrating exemplary leadership from the corporate governance levels in risk management to drive risk awareness, and inculcate a strong risk culture across all levels in the organization.

Risk Education and Training for Board Members

On an annual basis, board members undergo a series of industry-curated training programs that are structured according to their academic and professional background. In line with global development trends and ASEH's risk assessments, we invited board members to attend selected courses focused on the topics of 'Semiconductor Industry Trends in the Changing World.' , 'Global Trends Analysis – Risks and Opportunities.', 'Intellectual Property Rights Management and Business Risks.' and 'Digital Technology and AI Trends and Risk Management.'. They may also choose to take part in external courses as needed.

Risk Education and Training for All Employees

We also provide internal training courses that are crucial to risk management. In addition to conducting ERM and BCM work forums to increase the risk awareness of senior managers, we have also organized a variety of courses that have achieved 100% participation rate, for all employees. In 2023, a total of 32 courses were conducted across the entire company, classified into 5 major categories, the courses have attracted 175,358 participants, and all employees have completed relevant risk training.

2023 Risk-related Education and Training

Course Title	Targeted Trainees	Number of Participants	Completion Rate	Training Hours
Product Safety	Technical positions	43,775	100%	2
Legal Compliance	Managerial, technical, and administrative positions	39,500	100%	2.33
Risk Management	Managerial, technical, and administrative positions	39,500	100%	0.5
Information Security Awareness	All employees	83,275	100%	0.35
Environment, Health, and Safety	All employees	83,275	100%	1

Risk Prevention from the Source

As the saying goes 'prevention is better than the cure', we believe that measures and actions taken in advance help eliminate the threat of risks. We have incorporated risk criteria into the initial development stage and throughout the approval processes of our products and services. For instance, we implemented a product quality assurance system that accounts for risks related to the market, intellectual property, finance, technical feasibility, and other factors in the planning phase. In the subsequent manufacturing process, we select lower-risk raw materials, improve quality and reliability, and facilitate the continuous improvement of overall production yield standards through a sound and comprehensive planning system.

Continuous Improvements of the risk management system

To reinforce our risk management practices, we have adopted measures that enable individual employees to proactively identify and report potential risks, as well as encourage employee participation through a structured feedback process. ASEH's subsidiaries have all successfully completed ISO 9001, ISO 14001, and ISO 45001 and other relevant certifications. Continuous improvements to the risk management process is further enhanced by applying the techniques in the Plan, Do, Check, and Act (PCDA) cycle that effectively triggers a wide range of potential risks for immediate attention. All risks are assessed and managed within the institutionalized settings, while risk responses are incorporated into standard management procedures through the internal management communication system. The company's primary operating bases have all obtained ISO 22301-Business Continuity Management certification.

Emerging Risks

From the rapidly evolving business environment, to ongoing technological breakthroughs and escalating deglobalization, a multitude of global developments have elevated uncertainties that directly affect ASEH's operations. It is therefore crucial for the company to fully understand the potential impacts of external emerging risks on ASEH's key businesses. The company identifies key emerging risk topics through a risk identification and analysis framework, and reviews potential risk mitigation and response measures rigorously to strengthen its capacity to adapt to external change. At this point, it is challenging to quantify emerging risks due to their forward-looking nature, and it is probable that they will develop into substantial risks in the future. Therefore, we have established a systematic emerging risk identification and assessment process to prepare for emerging risks in the future, and to assist the board of directors and senior management in making decisions that align with our business strategies and long-term value.

Identification of emerging risk factors

We examine international risk reports, economic trends, and industry analysis to assess the external environment and identify potential emerging risk factors.

Selection

We select key emerging risk factors after a thorough examination of conditions such as industry applicability, potential significance, and long-term impact. In 2023, 6 key risk factors were selected.

Analysis and ranking of emerging risks

We analyze and rank emerging risks according to indicators such as the probability of occurrence, severity, and the time frame of the impacts.

Operational impact analysis of emerging risks

Operational impact analysis is performed on major emerging risks in accordance with the ranking results, with consideration of factors such as the scope of the impact and risk management capabilities.

Risk response

The risk function units of the company and its subsidiaries create suitable response plans that are based on cost-effectiveness, feasibility, and other factors in order to mitigate or transfer risks.

Risk management and reporting

Responsible risk management units consistently monitor changes in the external environment and risk developments, and submit regular reports to the Risk Management Committee.

Incorporate into the Enterprise Risk Management Plan

Based on the aforementioned process, ASEH has identified the following key emerging risks and the corresponding monitoring and control mechanisms:

Type of Risk	Description	Potential Impacts	Response Measures
Intellectual property risks	Employees use generative AI to improve work efficiency may lead to potential exposure of confidential information, resulting in the loss of the conditions that could originally be claimed for trade secret protection. Otherwise, laws and regulations related to copyright issues and the use of generative AI have yet to be established.	1. The company's competitiveness could be adversely affected by the Improper use of generative AI leads to the leakage of business secrets. 2. If creations generated using generative AI cannot apply for patents or obtain copyrights, the company's intellectual property management will be seriously affected.	1. Increase employees' understanding, and ensure efficient management of generative AI use and intellectual property rights. 2. Strive to obtain TIPS Level A certification, enhance the intellectual property management system and regulations, maintain a commitment to the development of advanced process technology, and actively establish a global patent presence while adopting a dual-track strategy that is centered on both patents and trade secrets to protect intellectual property rights. 3. Implement a trade secret management system and provide education and training on the protection of trade secrets.
Global economic risks	The COVID-19 pandemic and geopolitical fragmentation have caused operating costs to increase, driving up global consumer prices and inflation. Consequently, developed economies run the risk of "stagflation."	1. Inflation impedes the growth of corporations, making it challenging for businesses to operate and resulting in a stagnation of growth and the potential for sustained losses. 2. Inflation leads to an increase in interest rates, which slows down economic activity and impacts business operations.	1. (Financial Department): Continuously monitor interest and exchange rate trends and manage risks through hedging 2. Enforce the timely adjustment of management and control measures based on analysis of long-term trends in customer orders and the overall impact of material price increases on the company's future operations. 3. Maintain current and comprehensive records of customer needs or complaints resulting from fluctuations in economic conditions and industry trends, and forward these records to the appropriate units and senior managers to ensure that customer feedback is addressed in the most efficient and timely manner.
Regulatory compliance risks	Sustainability-related legislation, such as Carbon Border Adjustment Mechanism(CBAM) in the EU and the US Clean Energy for America Act(CCA), is increasingly being adopted by countries worldwide, while Taiwan by EN Climate Change Response Act. is preparing to impose carbon fees on major carbon emitters. Uncertainties surrounding corporate legal compliance have been further exacerbated by these developments. Moreover, regulatory compliance risks have been elevated by the introduction of new and more stringent compliance requirements.	1. As countries around the world gradually implement sustainability laws and regulations, the company's operations will be severely impacted if it fails to respond promptly, resulting in a significant increase in costs or the disruption of exports. 2. The company's continued operations may be adversely affected by fines and negative impacts on its reputation as a result of any failure on the part of the company to comply with relevant regulations.	1. (Legal Compliance): In response to newly promulgated laws, promptly instruct all subsidiaries and relevant departments to evaluate the company's existing operating procedures and modify them to maintain compliance with the laws and regulations. 2. Expand efforts to monitor trends related to international sustainability laws, initiate early preparation, and study response strategies.

3.5 Human Rights Management

Human Rights Policy

ASEH and its subsidiaries are committed to safeguarding the human rights of employees and value chain partners (including customers, suppliers/contractors, agents, joint ventures and consortia partners and local communities) and promoting the sustainable development of the environment, society and economy. ASEH's approach is designed in support of the United Nations Universal Declaration of Human Rights, the UN Global Compact, the UN Guiding Principles on Business and Human Rights and the International Labor Organization's Declaration on Fundamental Principles and Rights at Work. ASEH is also committed to upholding local laws and regulations in the countries where ASEH operates, and reviewing the implementation of its human rights policies on a regular basis through membership on the RBA.

Commitment

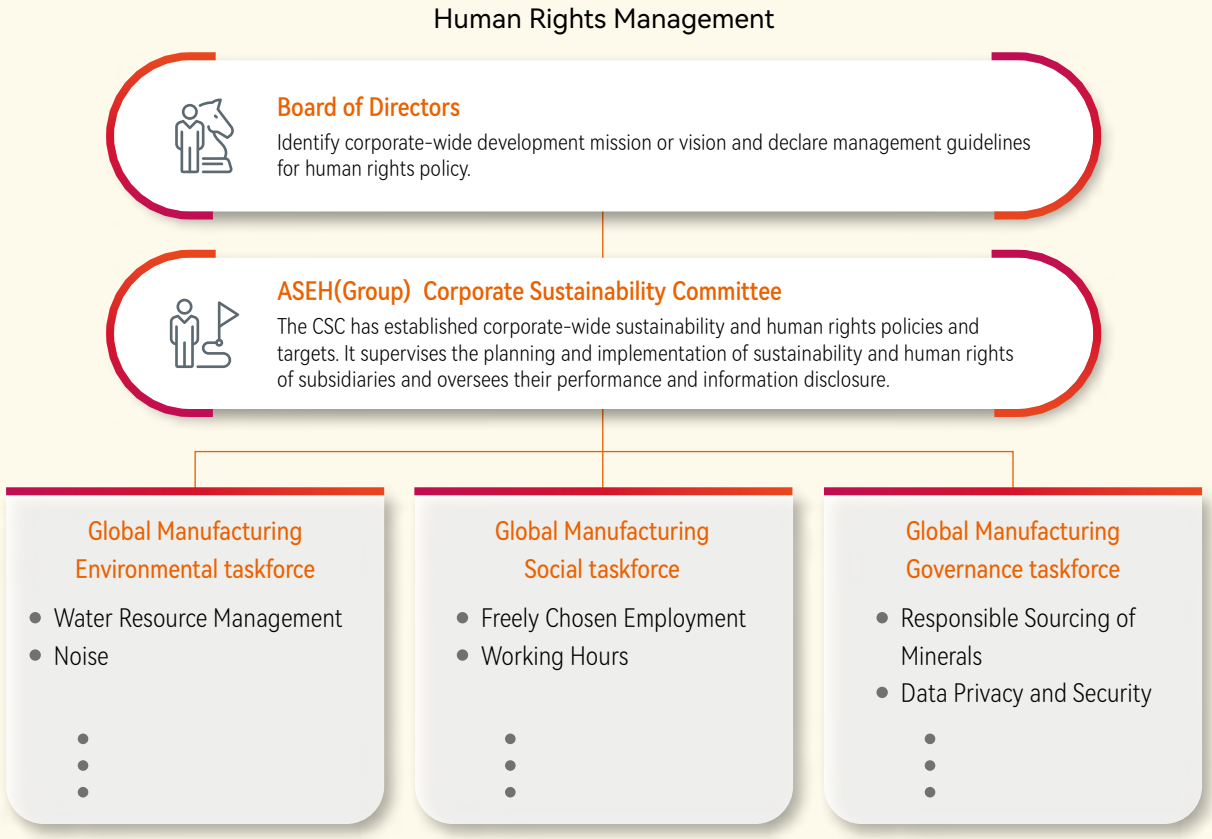
- **Protection and Respect:** ASEH is committed to protecting and respecting human rights and creating an environment conducive to human rights protection.
- **Appeal and Remedy Process:** To prevent infringement of human rights, protect ASEH employees and value chain partners, and mitigate any adverse human rights impacts, ASEH has put in place formal processes for appeal and remedy.
- **Management and Investigation:** ASEH seeks to continuously improve human rights governance with education and training and human rights due diligence and feedback mechanism and keep in lockstep with business development trends.

Management Organization

In order to adequately manage human rights issues that arise from operating a global business, ASEH implements risk management at all facilities, collates and reports the information to the ASEH CSC and top management at regular meetings.

Guidelines of Management

ASEH has adopted human rights management practices that follow PDCA procedures and include risk identification, assessment, monitoring, control, and disclosure. In a reflection of the different roles played by ASEH, we focused our human rights management efforts on our employees, suppliers, local communities, and customers, performing due diligence with each group and providing whistle-blowing channels to prevent any human rights violations.



Risk Management Process

Plan
Identify vulnerable human rights risks targets and topics, implement human rights risk assessment through corresponding due diligence methods, and provide a grievance mechanism to safeguard the rights of each stakeholder.

Do
Implement human rights risk management in the daily operation process, starting with the policies, measures, education and documenting, to avoid possible human rights risk events and damages.

Check
Conduct risk assessment methods based on different subjects, conduct annual human rights risk surveys, identify risk issues and targets, and report them to ASEH CSC.

Action
Develop mitigation measures and compensation measures for human rights risks and targets that are vulnerable, plan future human rights risk management objectives, and implement continuous improvement mechanisms.

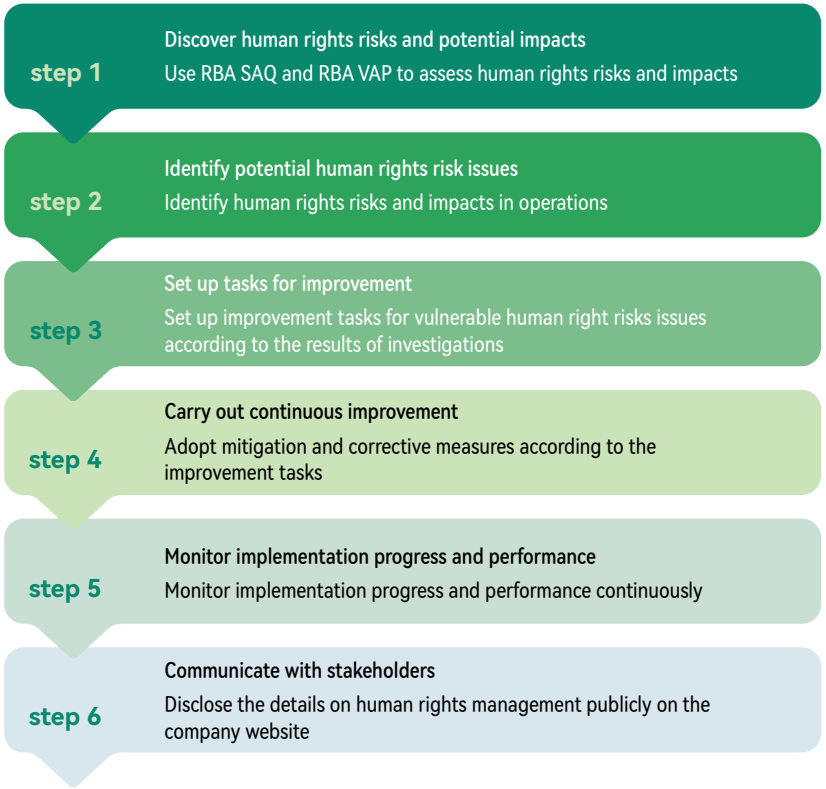
ASEH as a/an	Target	Human Rights Issues	Policy	Responsible	Management Mechanism	Complaint Mechanism
• **Employer** • **Value Chain Partners (Joint Venture Mergers)**	• All Employees • Foreign Employees • Female Employees • Young Workers	Freely Chosen Employment, Working Hours, Wages and Benefits, Non-Discrimination, Sexual Harassment, Occupational Safety, Emergency Preparedness, Young Workers, Data Privacy and Security	Corporation Human Rights Policy Statement	Subsidiaries' "Employee Care and Development Taskforce"	RBA SAQ, RBA VAP, and qualified internal audit	1. Internal whistle-blowing channels: the internal whistle-blowing channels of subsidiary companies 2. External reporting channel: Code of Conduct Compliance Reporting System https://www.aseglobal.com/antifraud/en.asp
Purchaser	• All Suppliers/ Contractors	Freely Chosen Employment, Young Workers, Working Hours, Wages and Benefits, Occupational Safety, Emergency Preparedness, Responsible Sourcing of Minerals	Supplier Code of Conduct	Subsidiaries' "Supply Chain Management Taskforce"	Supplier sustainability questionnaires/RBA SAQ, on-site audits, RBA VAP, and qualified internal audit	
Contributor to Community Development	• Local Communities	Water Resource, Noise, Air Pollution	Sustainable Development Best Practice Principles	Each facility	Monitoring of noise, effluent, and emissions sources at ASEH facilities	
Service Provider	• Customers	Data Privacy and Security	Policy on the Protection of Privacy and Personal Data	Each facility	Annual risk assessments, qualified internal audit, and independent third parties	

Human rights management standards and regulations:
1. Corporation Human Rights Policy Statement, please refer to https://www.aseglobal.com/en/pdf/human-rights-policy-en.pdf
2. Corporation Anti-Discrimination and Anti-Harassment Policy, please refer to https://www.aseglobal.com/en/pdf/anti-discrimination-and-anti-harassment-policy-en.pdf
3. Sustainable Development Best Practice Principles, please refer to https://media-aseholdco.todayir.com/20220324171126159296091_en.pdf
4. Code of Business Conduct and Ethics, please refer to https://media-aseholdco.todayir.com/20180622151727139618980_en.pdf
5. Supplier Code of Conduct, please refer to https://www.aseglobal.com/en/pdf/aseh-supplier-coc-en.pdf
6. Purchasing and Supply Chain Development Policy, please refer to https://www.aseglobal.com/en/pdf/2019_aseth_purchasingandsupplychaindevelopmentpolicy.pdf
7. Environmental Responsibility Policy, please refer to https://www.aseglobal.com/en/pdf/environmental-responsibility-policy-en.pdf
8. Policy on the Protection of Privacy and Personal Data, please refer to https://www.aseglobal.com/en/pdf/privacy-policy-en-2022.pdf

Due Diligence

ASEH has conducted regular human rights due diligence to assess and identify human rights risks and potential impacts. If risks, potential impacts, or violations are discovered during the human rights due diligence, ASEH shall take immediate actions to mitigate or remediate. Risks, potential impacts or violations assessed and identified through human rights due diligence process and their status will be reviewed and be the basis for adjusting ASEH human rights policy and human rights management regulations and management procedures to strengthen ASEH's human rights protection.

Due Diligence Procedure



Implementation and Outcome

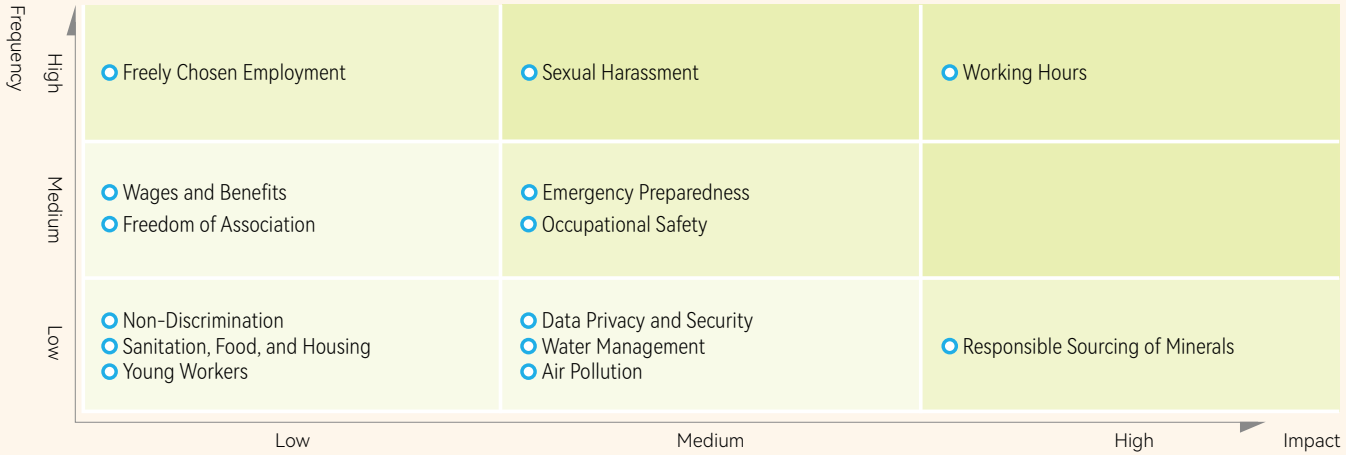
Internal

The human rights risks of our manufacturing and business activities are mainly related to employee and local community interest groups. ASEH used the RBA Self-Assessment Questionnaire (SAQ) and Validated Audit Process (VAP) to perform risk management at our facilities worldwide. By examining the results of our human rights risk assessments of the past three years, ASEH was able to identify issues and interest groups that were vulnerable to human rights risks and prepare corresponding mitigation and compensation measures. According to the assessment results, potential human rights risk issues include working hours, sexual harassment, freely chosen employment, emergency preparedness, and occupational safety. Each year, ASEH has drawn up mitigation measures, which include raising human rights awareness via human rights training, ensuring sufficient manpower, management of working hours, improving occupational safety, and preventing occupational hazards. For more information, please refer to Chapter 6.1: Talent Attraction and Retention and Chapter 6.3: Occupational Health and Safety of this report.

External

ASEH assessed human rights risks associated with the company's suppliers using supplier sustainability risk assessment questionnaires and the RBA SAQ. ASEH performed sustainability risk assessments on all Tier-1 suppliers and conducted risk identification through the RBA VAP. Based on the assessment results, ASEH identified working hours, freely chosen employment, responsible mineral sourcing, occupational safety, and emergency preparedness as major human rights risks. ASEH then identified potential high-risk suppliers and adopted measures to verify and lower any risks. For more information, please refer to Chapter 7: Responsible Procurement of this report.

ASEH Human Rights Risk Matrix



Mitigation and Remediation Measures

The mitigation and remediation measures for the human rights risks identified with high frequency and high impact on companies in 2023 are as follows[1] :

Target	Risk Issues		Mitigation Measures	Remediation Measures
Employees	Labor	• Freely Chosen Employment • Working Hours • Sexual Harassment	• **Systems** - ASEH's approach is designed in support of the United Nations Universal Declaration of Human Rights, the UN Global Compact, the UN Guiding Principles on Business and Human Rights and the International Labor Organization's Declaration on Fundamental Principles and Rights at Work. ASEH is also committed to upholding local laws and regulations in the countries where ASEH operates, and reviewing the implementation of its human rights policies on a regular basis through membership on the Responsible Business Alliance. - Sexual Harassment: ASEH has formulated the Anti-Discrimination and Anti-Harassment Policy to protect all ASEH employees from workplace discrimination and harassment. • **Education and Training** - ASEH continuously conducts human rights education and training to strengthen the internal awareness of human rights and implement the human rights protection activities wholeheartedly. - Sexual Harassment: ASEH periodically conducts human rights and Anti-Discrimination and Anti-Harassment education and training.	• **Practices** ASEH has established the human rights policy to ensure all work should be voluntary and employees have the freedom to resign or terminate the employment relationship. - Working Hours: (a) Employment of sufficient manpower to meet manufacturing capacity and prevent manpower shortages and overtime. (b) Establishment of overtime management and tracking mechanism to prevent employees from working for seven or more consecutive days. (c) Develop an in-house working hours management and control system to help supervisors manage their subordinates' working hours, send SMS or email alerts to employees working longer hours. - Sexual Harassment: Each case shall be reviewed to determine its cause, and offenders shall be tracked, reviewed and monitored to ensure the effectiveness of the disciplinary or counseling measures, and to prevent similar incidents or retaliation from occurring. The results of such processes will then be used as a reference for making adjustments to workplace environment and regulations. • **Remediation** - Sexual Harassment: Each case shall be reviewed to determine its cause, and offenders shall be tracked, reviewed and monitored to ensure the effectiveness of the disciplinary or counseling measures. The results of such processes will then be used as a reference for making adjustments to workplace environment and regulations. - When ASEH confronts other human rights issues, ASEH will negotiate and adopt measures based on internal procedures. • **Punishment** - Sexual Harassment: For cases that constitute sexual harassment, the internal sexual harassment complaint processing committee shall issue a warning, disciplinary order, or another form of punishment to the offenders and require that they make an apology to the victims. Serious offenses may be grounds for dismissal. - When ASEH confronts other human rights issues, ASEH will negotiate and adopt measures based on internal procedures.

[1] The mitigation and remediation measures for other issues, please refer to the ASE Corporation Human Right Management Framework at https://www.aseglobal.com/en/pdf/human-rights-management-framework-en.pdf

Target	Risk Issues		Mitigation Measures	Remediation Measures	
	Health and Safety	• Occupational Safety • Emergency Preparedness	• **Systems** - All ASEH facilities worldwide have established OHS management organizations, and formulated methods and procedures that follow ISO 45001/OHSAS 18001 standards, the RBA Code of Conduct and local regulations. In addition to setting up a system for regular reviews, the OHS management system contributes effectively to preventing accidents. - **Emergency Preparedness:** ASEH public fire safety measures in accordance with the recommendations of the National Fire Protection Association (NFPA) and ISO 45001/OHSAS 18001 standards. • **Education and Training** - **Occupational Safety and Emergency Preparedness:** (a) Public fire safety measures in accordance with the recommendations of the National Fire Protection Association; enhanced training in disaster preparedness and safety education. (b) Regular emergency evacuation drills for fire, earthquake, and composite disasters; review and improvement of warning and prevention measures. (c) In addition to the regular education and training, Injury incidents and improvement of preventive measures are reviewed by ASEH each quarter.	• **Practices** - **Occupational Safety:** ASEH facilities have established occupational accident and incident reporting and investigation procedures and management procedures. When an occupational injury incident occurs, the standard handling procedure is carried out and the incident is reported to the competent local authority according to management regulations and local laws and regulations. The injury incidents and improvement of preventive measures are reviewed simultaneously. ASEH facilities have established occupational accident and incident reporting and investigation procedures and management procedures. When an occupational injury incident occurs, the standard handling procedure is carried out and the incident is reported to the competent local authority according to management regulations and local laws and regulations. - **Emergency Preparedness:** All of our manufacturing facilities develop disaster response and recovery plan and conduct full-scale emergency drills annually in cooperation with the local authorities. Various scenarios are simulated at these drills 100 to improve our disaster response plans.	• **Remediation** - **Occupational Safety:** (a) ASEH identifies higher-risk operating environments within ASEH facilities such as locations that could expose employees to ionizing radiation, noise, dangerous chemicals and dust, and provide such employees with high quality protective equipment. (b) Health assessments performed by professional physicians in medical consultation to help employees with self-health management. - Assistance with medical insurance claims. - When ASEH confronts other human rights issues, ASEH will negotiate and adopt measures based on internal procedures. • **Punishment** - ASEH will negotiate and adopt measures based on internal procedures.
Value chain partners (Joint Venture, Mergers)	Labor	• Freely Chosen Employment • Working Hours	• **Systems** - ASEH requests value chain partners to conduct annual audits or RBA VAP in order to mitigate risks. • **Education and Training** - ASEH requests value chain partners to internally and externally promote the importance and implementation measures of human rights through regular education and training for reducing the human rights risks in advance.	• **Practices** - ASEH requests value chain partners to establish an internal sustainability audit system to carry out routine and ad hoc audits in order to continuously raise their sustainability. • **Remediation** - ASEH requests value chain partners to adopt corrective measures for human rights risks and conduct follow-up on implementation.	- ASEH requests value chain partners to provide guidance or financial compensation, or to implement policy changes or other compensatory measures for employees whose human rights have been violated. • **Punishment** - ASEH requests value chain partners to terminate the relationship with their suppliers and request punitive liquidated damages when they are involved in serious human rights violation.
	Health and Safety	• Occupational Safety • Emergency Preparedness			
Suppliers/ Contractors	Labor	• Freely Chosen Employment • Working Hours	• **Systems** - Annual audits or RBA VAP to assess suppliers' human rights risks through company subsidiaries in order to mitigate risks. • **Education and Training** - Through regular education and training, ASEH promotes the importance and implementation measures of human rights to suppliers for reducing the human rights risks in advance.	• **Practices** - ASEH has established a supplier sustainability audit system to carry out routine and ad hoc audits in order to continuously raise supplier chain's sustainability. • **Remediation** - ASEH requests suppliers to adopt corrective measures for human rights risks and conduct follow-up on implementation. - ASEH requests suppliers to provide guidance or financial compensation, or to implement policy changes or other compensatory measures for employees whose human rights have been violated.	• **Punishment** - ASEH shall terminate the relationship with suppliers and request punitive liquidated damages when suppliers are involved in serious human rights violation.
	Health and Safety	• Occupational Safety • Emergency Preparedness			
	Ethics	• Responsible Sourcing of Minerals			

Protection of Privacy and Personal Data

Policies and Goals

ASEH values and cares about the importance of privacy and personal data protection. Accordingly, we have adopted a corporate policy on the protection of privacy and personal data and established relevant internal management measures; and requested our subsidiaries and their respective suppliers to collect, process, use, retain and disclose the personal data in compliance with the Personal Data Protection Act of Taiwan, EU General Data Protection Regulation (GDPR) and applicable laws and regulations on the protection of privacy and personal data in other countries or areas where they operate, ensuring the compliant operations and cooperating to protect the privacy and personal data and secure the rights and interests of data subject. Our corporate policy[1] sets forth clear guidelines and compliance requirement on the use and protection of personal data. We, our subsidiaries and their respective suppliers shall commit to collect, process, and use personal data to the extent not exceeding the necessary and minimal scope of specific purposes, and take appropriate and secure protection measures.

Advocacy and Implementation

To continue to enhance our employees' awareness of personal data protection compliance and ensure the compliance management and implementation, we regularly provide internal training course and important updates on relevant laws and regulations on the protection of personal data and compliance guidance. We also review the status of personal data security, assess any potential non-compliance risk our daily operations may be subject to and establish relevant management plans and measures in accordance with the results of assessment. Also, we complete RBA validated audit on bi-annual basis and the external RBA certified auditors carried out on-site audit of privacy aspects, among other management items, by reviewing our detailed internal management process related to (i) protect of personal data, (ii) safeguards to prevent unauthorized disclosure of personal data, (iii) monitoring procedures related to the protection of personal data, (iv) documentation and records with appropriate retention on-site/off-site and appropriate levels of access to ensure privacy conforming to regulatory record retention requirements. The latest RBA validated audit findings we receive rate "Conformance" for the foregoing privacy related aspects. In addition, we retained Ernst & Young, an independent third party accounting firm, to verify our compliance with Privacy Policy with respects to the matters on policy making, roles and responsibility, risk management, disciplinary actions, internal audit, public information, etc. The statement of above engagement provided by Ernst & Young is made available on our company website[2].

Use of Personal Data and Compliant

We have designated a department responsible for matters on the compliance with privacy and personal data protection and a hotline mechanism is also provided for our employees and external personnel to make inquiry or request about personal data based on his/her legal rights. We continue to monitor our use of personal data and throughout year 2023, we did not use collected personal data for any secondary purposes other than the specific purposes for which the personal data was first collected.

Our employees and external personnel may file complaint or report on the personal data matters via our reporting channels. Throughout year 2023, we did not receive any compliant or penalty related to personal data.

Type \ Source	Government Agency	Individuals or Other Type Parties
Compliant	none	none
Penalty	none	

Complaint Mechanism and Procedure

1. Receive complaint case
2. Accept for processing the complaint case
3. Collect information
4. Investigate the complaint case
5. Review the result and improve the mechanism
6. Disclose regular updates on the number, content and progress of case related to complaints without risking the privacy of any individuals.

[1] Please refer to Policy on the Protection of Privacy and Personal Data at https://ase.aseglobal.com/privacy-policy
[2] Please refer to the statement at https://www.aseglobal.com/en/pdf/coc-agree-upon-procedures-report.pdf

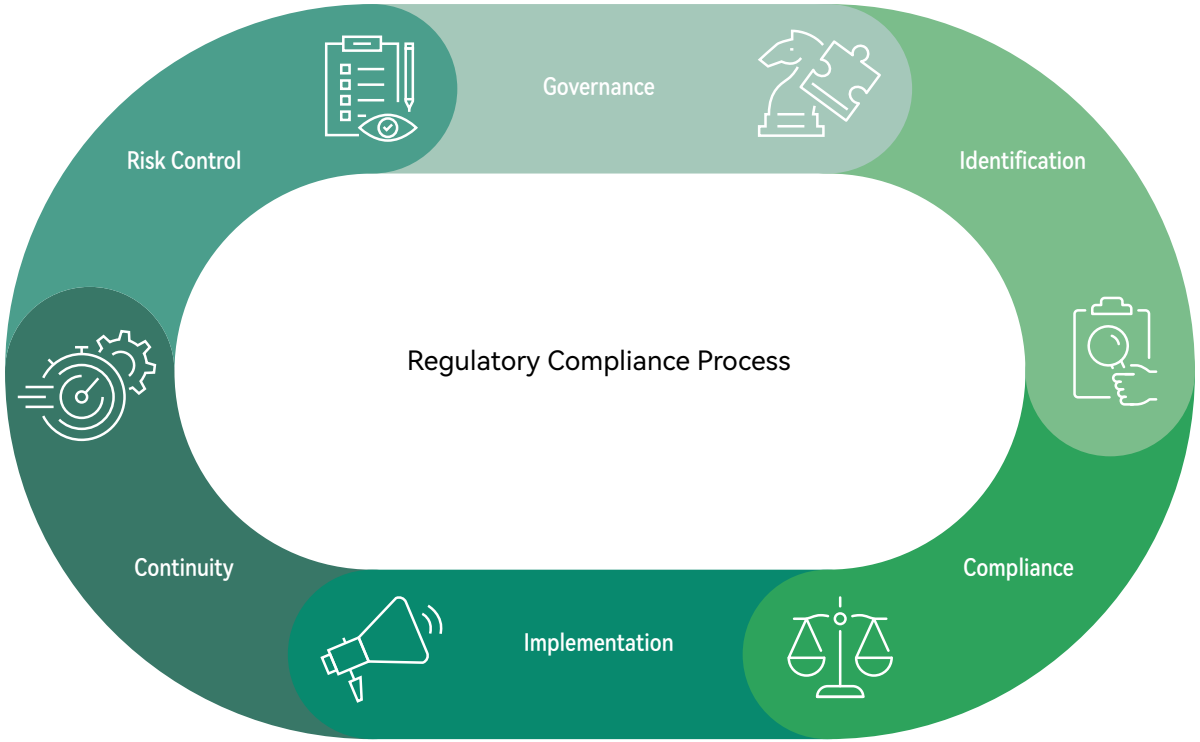
3.6 Regulatory Compliance

We conduct all our business activities in strict compliance with applicable laws and regulations. To ensure legal compliance, ASEH maintains regular updates on domestic and foreign laws and policies that affect its operations, and prioritizes regulatory compliance at all of its business locations.

The company's Corporate Governance Officer and Regulatory Compliance Department support board directors with overall regulatory compliance and supervise activities at our subsidiaries to ensure compliance with relevant laws and regulations. The steps we take to ensure compliance include managing regulatory inventories, staying updated with current laws and regulations, identifying changes, and reviewing legal compliance on a regular basis. The company also applies risk control mechanisms to assess potential legal risks across all our operations. Our subsidiaries are required to promptly report all incidences of non-compliance that result in penalties. The responsible subsidiary shall conduct a root cause analysis and propose immediate improvement plans. Both the regulatory compliance department and audit department will oversee and ensure the implementation of corrective actions, reporting the status to the board of directors annually.

Throughout 2023, the company conducted regulatory compliance audits across all subsidiaries and strengthened management in the fields of environment, health and safety. The United States' Export Administration Regulations (EAR), Clean Competition Act (CCA) and the European Union's Carbon Border Adjustment Mechanism (CBAM), are of particular significance to the technology sector, and are thus classified as our company's key compliance focus areas. In Taiwan, we focus primarily on the Taiwan Securities and Exchange Act, Labor Standards Act, Occupational Safety and Health Act, Fire Services Act, Climate Change Response Act, Energy Administration Act, Renewable Energy Development Act, Gender Equity in Employment Act, Sexual Harassment Prevention Act and National Security Act. As part of our regulatory compliance practices, we diligently adapt and modify our internal framework, conduct trainings, and disseminate information to update, educate and communicate with our board of directors, management and all employees.

The company remains in resolute compliance with all major laws and regulations governing public listed companies and corporate governance-related rules in Taiwan, including the Company Act, Fair Trade Act, Securities and Exchange Act, etc. In 2023, ASEH recorded seven cases that incurred financial penalties amounting to approximately US$20,369 imposed by authorities in the respective regions we operate. However, there were no major cases involving penalties exceeding US$10,000. In January 2024, we provided the board of directors with a status report for 2023, that included an overview of the corrective actions taken by the subsidiaries involved and an update on their regulatory compliance.

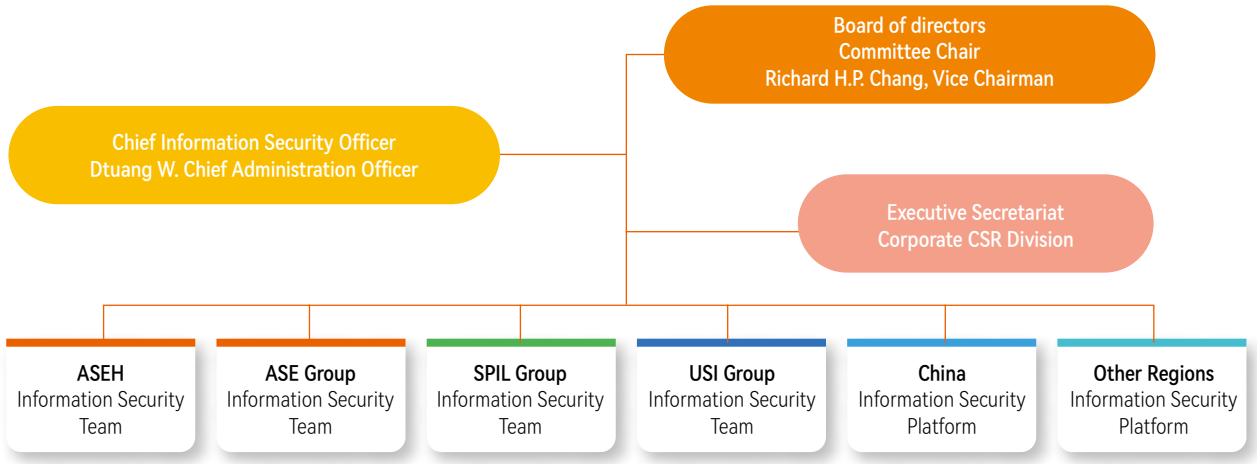


3.7 Information Security Management

Information Security Policy, Organization and Targets

To strengthen the company's resilience in information security (infosec) and respective management mechanisms, we have integrated an approach from the corporate governance perspective by putting in place a comprehensive set of infosec policy, conducting regular cybersecurity drills, and organizing employee education and training to enhance overall infosec awareness. The ASEH Information Security Policy[1] provides the highest level of management guidance to protect the confidentiality, integrity and availability of critical information assets, and to ensure compliance with relevant laws and regulations. With a robust infosec policy in place, ASEH is well positioned to boost customer trust, strengthen industry competitiveness, and maintain business continuity. We assess information security risks in accordance with regulatory requirements and business goals, and provide a status report to the senior management and the Board. The report offers a succinct overview of the infosec challenges and the current status, and forms the basis for the management and the Board to formulate additional guidelines, strategies and targets.

ASEH Information Security Management Committee



The Information Security Management Committee, responsible for overall information security across all subsidiaries, was established by the ASEH Board of CSC to develop strategic plans, establish benchmarks for information security maturity assessments and coordinate all internal and external technical resources and information. Richard H.P. Chang, Vice Chairman of ASEH has been appointed the chair of the committee. The committee's Chief Information Security Officer assumes responsibility for the establishment of the information security management framework that includes regular reviews with all ASEH subsidiaries and implementing incident response plans. The Chief Information Security Officer (CISO) of the Information Security Management Committee, who is also the Chief Administration Officer and Corporate Governance Officer of the Company, assumes responsibility for the establishment of the information security management framework that includes regular reviews with all subsidiaries of ASEH and implementing incident response plans. The committee provides a status report to the Board of Directors in the last quarter of each fiscal year. In addition, the Executive Secretariat of the Company's Corporate CSR Division is responsible for promoting and executing information security-related work, and each subsidiary appoints its information security team as members of the committee to be responsible for implementing information security operations as resolved by the Information Security Management Committee. We regularly hold quarterly meetings of the Information Security Management Committee of ASEH to report and discuss the progress of our information security work, and invite external experts to share information security trends and significant issues.

[1] For more details on ASEH Information Security Policy, please refer to the link below: https://www.aseglobal.com/en/pdf/2024_ASETH_ISMP_EN.pdf

As our business continues to grow, the amount of information generated have also increased exponentially. Safeguarding the confidentiality, integrity and availability of information forms the cornerstone of ASEH's information security management. Besides identifying internal and external information security risks and formulating countermeasures, we regularly implemented the NIST CSF maturity assessment in all facilities every year. Our cybersecurity policies are formulated to ensure the highest level of network and system protection and mitigation of impacts from any disruption. At the same time, education and training are actively conducted to enhance employee awareness on the importance of information security and prevent major data breaches. Building resilience through a robust information security management system is key to corporate sustainability and will greatly boost stakeholder satisfaction.

Information Security Management Targets for 2025

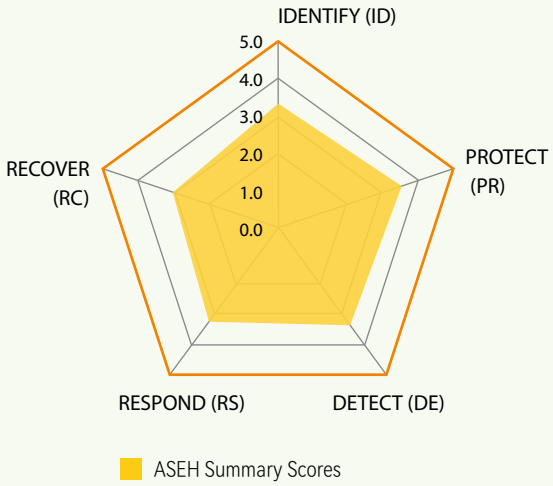
Major Information Security Incidents	NIST CSF Maturity Assessment Coverage	Employee Information Security Education and Training Coverage
0 cases	100 %	100 %

Information Security Implementation and Safeguards

Cybersecurity Maturity

To effectively manage the adjustments and enhancements made to the cybersecurity strategy and cybersecurity defense system of each subsidiary, ASEH began implementing the NIST CSF maturity assessment mechanism in partnership with third-party consultants in 2019. The overall maturity level in cybersecurity was assessed based on five key indicators: Identify, Protect, Detect, Respond, and Recover. We have been gradually shifting our focus to refining and deepening our cybersecurity requirements. Each factory site can undertake individualized cybersecurity enhancements based on their own maturity assessment results and recommendations for improvement. We benchmark ourselves against the semiconductor industry and vow to understand our own cyber environment better. We assess the risks that impact each subsidiary in different cybersecurity areas, countries, or operations and consolidate resources to provide better guidance and support. Our goal is to implement and continuously improve the foundational cybersecurity management across businesses. In 2022, we proceeded with the last year's maturity assessment mechanism and continued to collect data on individual subsidiary's current cybersecurity management and control as well as cybersecurity frameworks and policies regarding NIST CSF's five assessment dimensions. In addition, driven by the digital transformation, the convergence between IT and OT is becoming increasingly close. In particular, the scope of horizontal implementation is extending from IT to OT with the goal of aligning the cybersecurity maturity of OT closer to that of IT. This approach is adopted to gradually enhance the cybersecurity defense capabilities of critical operational systems within the company.

Cyber Security Resiliency



Cyber Resilience Collaborating Mechanism

Cybersecurity risk identification and management

ASEH commissions a professional third-party unit annually to conduct regular cybersecurity audit and assessments such as external audit, vulnerability scanning, and penetration testing to ensure that information system and the internet environment comply with safety standards. We strictly enforce cybersecurity policies and implement client privacy protection measures to avoid the unauthorized disclosure of the company's confidential business information and client data. In the event of unforeseen external cybersecurity attacks, the cybersecurity team will convene immediate platform technical exchanges and response meetings to analyze and review relevant responses and defense measures, constructing a comprehensive defense network capable of information synchronization.

To respond to the emerging trends of digital transformation, in addition to continuously improving information technology (IT), we are also gradually transferring our IT cybersecurity experiences to operational technology and initiating phased planning and implementation of cybersecurity assessments in the OT domain. Through assessments and testing conducted by external experts, potential cybersecurity threats and risks in the OT environment can be reduced. OT cybersecurity assessments were completed at 4 four facility sites in 2023.

In addition to managing operational risks from the perspective of corporate governance, we try to increase employees' cybersecurity awareness and enhance organizational operational capabilities as part of our focuses in cybersecurity management. All employees at ASEH must receive PIP cybersecurity educational training, including cybersecurity policy, cybersecurity management framework, cybersecurity control measures, etc. In 2023, a total of 110,123 individuals completed 53,862 hours of training courses. Additionally, occasional social engineering email drills were conducted to enhance employees' awareness of social engineering attacks through emails. Additionally, we will gradually introduce systematic management mechanisms to incorporate participation in cybersecurity meeting, educational training, incident management, confidential file labeling, antivirus/software security, and other cybersecurity-related projects in a systematic manner. Moreover, KPI monitoring and audits are conducted, extending the scope of management, and reaching every employee and every endpoint device. This will be integrated with employees' performance to reduce penalties and legal liabilities resulted from violations against cybersecurity regulations, as well as the impacts on business operations.

Increase cyber resilience

There were no serious cybersecurity incidents[1] in ASEH in 2023. In addition to constructing a cybersecurity incident classification system and reporting\response procedures, we also conduct a cybersecurity incident drill annually to ensure fast responses in the event of incidents, reduce risks, and minimize the scope of damage. We also established the ASEH Information Security Management System to incorporate two major functions, cybersecurity information and cybersecurity incident reporting, to facilitate real-time acquisition, dissemination of cybersecurity information, and efficient handling of security incident reporting. Our goal is to gain a comprehensive understanding of the risk landscape, enhance the response and defense capabilities in the event of information security incidents, and establish a cross-functional cybersecurity collaborative defense mechanism. Furthermore, as cybersecurity risks have posed serious challenges to the company, ASEH purchased cybersecurity insurance as a backend defense mechanism. The insurance covers ASEH and its subsidiaries and allows ASEH to take immediate response measures and manage relevant damage when cybersecurity incidents occur. With the insurance coverage, we aim to reduce potential cybersecurity losses for ourselves, clients, and suppliers and facilitate the rapid restoration of normal business operations.

To ensure the sustainable operations of important businesses and prevent interruption of critical information systems as a result of material cybersecurity incidents, we conduct an incident recovery drill every six months which lays out the organizational structure diagram, scope, duration, critical information systems, participating units, participating personnel and their assigned tasks, backup personnel for the drill, implementation steps and processes of the drill, required resources, data recovery from backup, risk management during the drill, post-drill review and improvement processes, among others. The purpose is to ensure the company can leverage disaster response capabilities and disaster recovery mechanisms to quickly restore operations to a normal or acceptable level for the business, achieving the goal of uninterrupted operations of critical information systems. The drill will continue to be implemented to provide maintenance, management, and training to ensure the effectiveness of the backup systems.

[1] We define a major information security incident as any loss exceeding US$10 million

Information Security Information Exchange

ASEH works closely with government agencies, local and international information security organizations including FIRST (Forum of Incident Response and Security Teams), Taiwan Computer Emergency Response Team/Coordination Center (TWCERT/CC), and High-tech Information Security Alliance. As a member of the SEMI Semiconductor Cybersecurity Committee, we are actively driving the industry's adoption of SEMI E187 – Specification for Cybersecurity of Fab Equipment, a Taiwan-initiated security standard. Adopting the relevant infosec regulations, standards and industry intelligence allow us to integrate our internal management systems and expertise, to develop a comprehensive set of capabilities that will further strengthen our resilience.

At the same time, we are committed to meeting the expectations from our upstream and downstream supply chains and stakeholders on matters related to information security. ASEH's strong and robust security defense leads to a tightly-secured smart manufacturing environment and increases the company's competitive advantage as a sustainable enterprise.

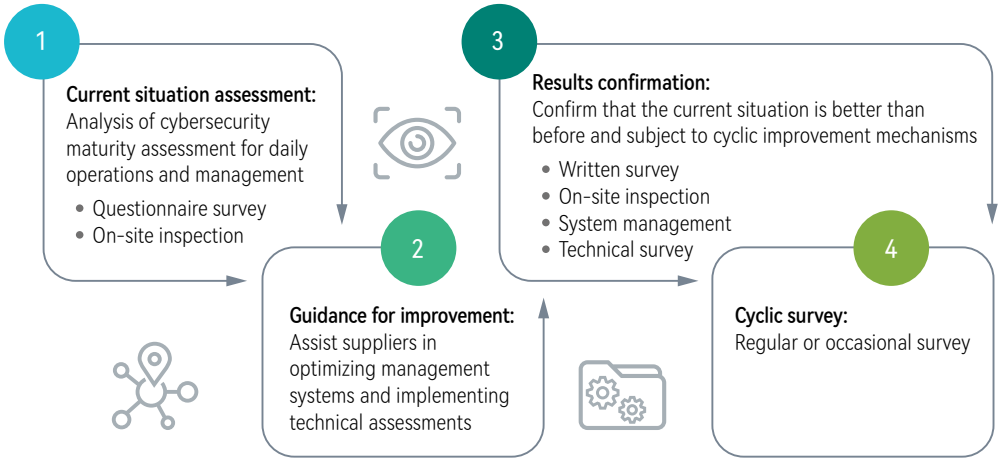
ASE Kaohsiung and the Kaohsiung division of the Ministry of Justice Investigation Bureau (MJIB) have signed a memorandum of understanding (MOU) on advancing information security resilience including the focus on trade secret protection and intelligence sharing. The MOU underscores both ASEH and the ministry's ambition to enhance bilateral cooperation and risk assessment through the mutual exchange of infosec expertise as well as to explore the latest cybersecurity technologies and defense strategies together. The MOU also marks an important milestone on the collaboration between businesses and government agencies to strengthen corporate digital resilience, and build prompt and effective responses to cyber threats and attacks. These efforts will help to shape a more secure digital ecosystem at ASEH, and protect our precious corporate assets.

MJIB, Kaohsiung and ASE Kaohsiung sign MOU on advancing information security resilience including trade secret protection and intelligence exchange

Supply chain cybersecurity management

As a result of the digitization of the supply chain and the exchange of large volumes of data, the supply chain is faced with unprecedented cybersecurity risks. To effectively improve cybersecurity resilience across the supply chain, starting from 2022, ASEH has established the Supplier Cybersecurity Assessment and Execution System, which primarily focuses on critical suppliers. A total of 76 supplier cybersecurity assessments were conducted in 2023, following a four-step process consisting of current situation assessment, guidance for improvement, results confirmation, and cyclic survey. The scope of assessments will be gradually expanded and a cyclic regular survey conducted every three years to construct a comprehensive cybersecurity management mechanism, ensure stable business operations, increase cybersecurity resilience, and further improve the overall cybersecurity environment and level in the semiconductor industry.

Procedures for supply chain cybersecurity assessment



Information Security Certification and Information Security Measures Promote Results

Information security certification

ASEH prioritizes cybersecurity issues, identifying internal and external risks, and developing and promoting various key response strategies. It has earned recognition with international cybersecurity certifications, including ISO 27001, ISO 22301, ISO 15408, ISO 21434, IEC 62443, GSMA, and others. Through continuous management of corporate operations and adherence to international information security standards, ASEH rigorously reviews and optimizes cybersecurity workflows and management measures, enhancing operational resilience. This comprehensive approach safeguards smart manufacturing security and sustains competitive advantages for the company.

International information security certification

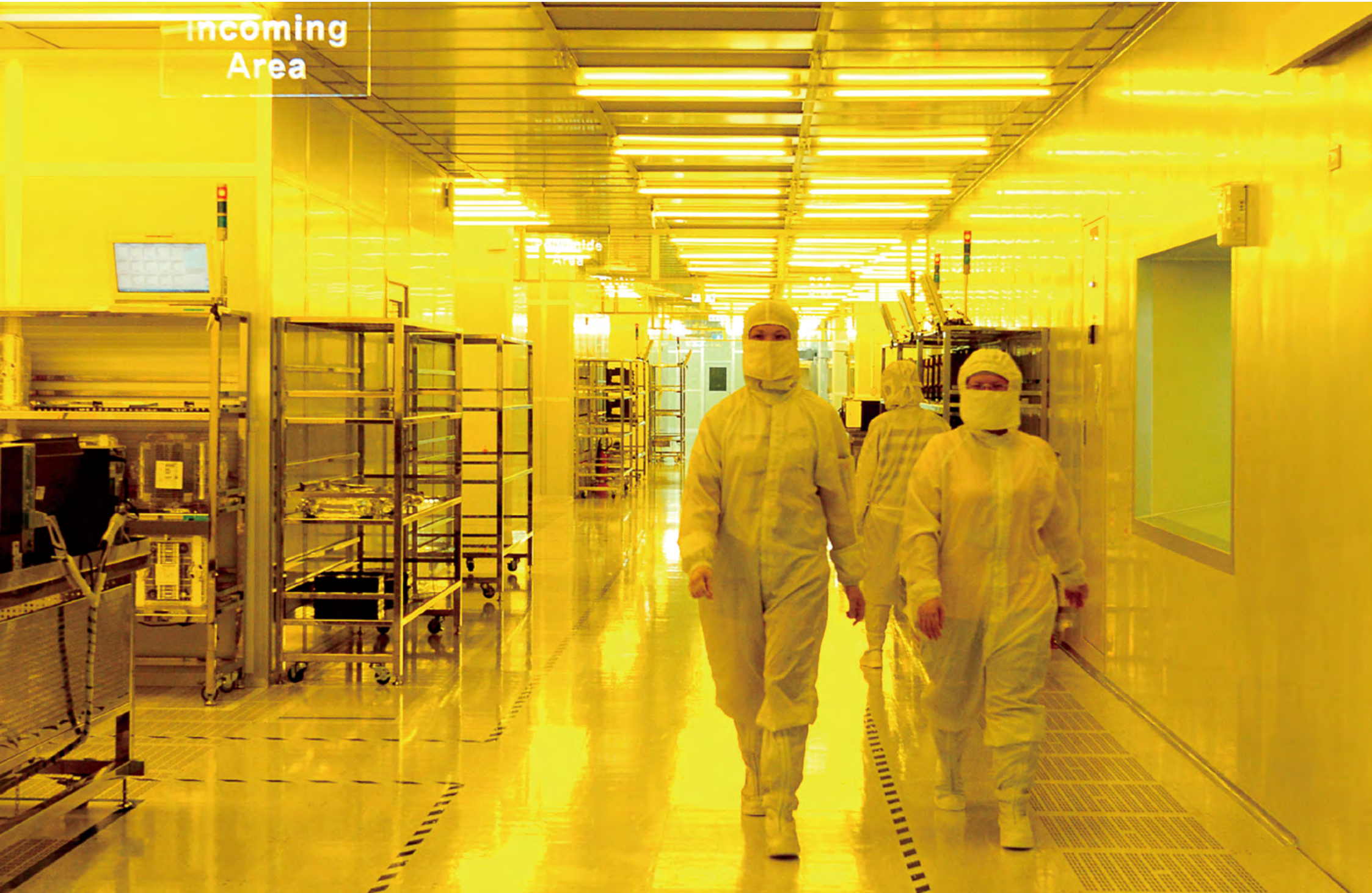
ISO 27001	To build a stable and robust foundation for the IT environment, ASE Kaohsiung, ASE Chungli, ASE Shanghai (Material), SPIL, and USI continue to improve and implement cybersecurity risk management targeting critical information systems that are essential to the operation of crucial facilities.
ISO 22301	ASE Kaohsiung and SPIL have successively obtained the BCMS (business continuity management system) ISO22301 certification to strengthen crisis management and disaster response.
ISO 15408	ASE Kaohsiung, Chungli and Singapore have been certified to EAL6, the highest level of security certification, creating a manufacturing environment and management system that comply with international standards for safe products and enhancing the safety management mechanisms for product transportation. We provide cybersecurity guarantees for manufacturing processes such as packaging and testing to offer better customer service.
ISO 21434	ASE Kaohsiung is the first semiconductor assembly and testing facility in the world to receive the ISO/SAE 21434 international automotive network security standard certification with 100% compliance by being certified by TUV NORD of Germany.
IEC 62443-2-1	ASE Kaohsiung passed the German TUV NORD's professional evaluation and obtained the IEC 62443-2-1 certification, becoming the very first company to receive the certification in the semiconductor industry in Taiwan.
GSMA	ASE Kaohsiung has passed the mobile communication security certification standard and obtained the GSMA certification. As a manufacturer, it completed a comprehensive audit of the production sites and processes to comply with the UICC production safety standard (GSMA SAS-UP)

Information Security Measures Promote Results

ASEH approaches internal initiatives from a corporate governance perspective, establishing information security policies, conducting regular cybersecurity drills, providing cybersecurity education and awareness training for employees to enhance overall security awareness. It invites representatives from industry, government, and academia to share international cybersecurity developments regularly, increasing crisis responsiveness. Externally, ASEH actively participates in international cybersecurity organizations such as FIRST, TWCERT/CC Taiwan Cyber Security Alliance, and High-Tech Cyber Security Alliance. Through these communication channels, it shares the latest trends and action plans with industry peers and supply chain partners, elevating cybersecurity protection levels. Simultaneously, by aligning certification efforts with international standards, ASEH strives to mitigate cybersecurity threats, ensuring secure operations and fostering long-term, solid partnerships with customers and supply chain partners to provide more comprehensive and refined services.

Outcomes of cybersecurity measures in 2023

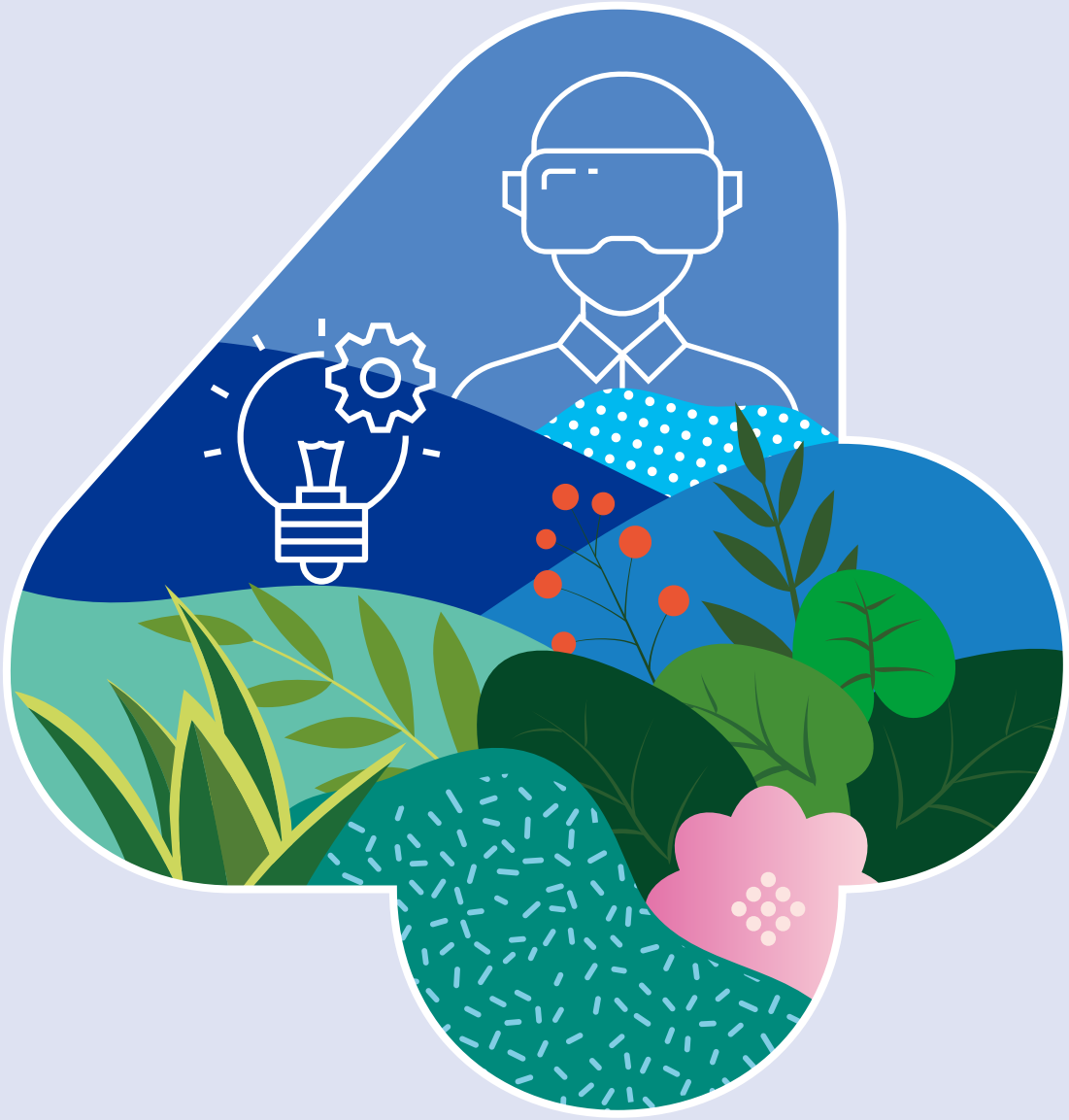
Cybersecurity policies, organizations, and goals	• Zero material cybersecurity incidents • Formulated three cybersecurity goals for 2025 • Convened four ASEH cybersecurity team meetings
Information Security Implementation and Safeguards	• Implementation of one ASEH Information Security Management System • NIST CSF maturity assessment for 25 sites • OT cybersecurity assessment at four sites • Two cybersecurity incident drills • Providing cybersecurity educational training to 110,123 individuals • Accumulating 53,862 hours of cybersecurity educational training • Ongoing cybersecurity insurance coverage • Conducting cybersecurity assessments for 76 suppliers
Cybersecurity certification	• 11 sites obtained the ISMS ISO 27001 certification • Three sites obtained the BCMS ISO 22301 certification • One site obtained the IEC 62443-2-1 certification • Three sites obtained the ISO 15408 certification(EAL6 the highest level of security certification)


Incoming
Area

INNOVATION SERVICE

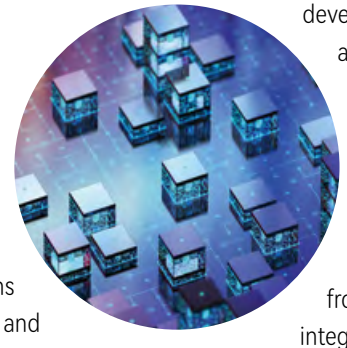
Innovation is the key to sustainable human development. Through innovation, ASEH improves product value, makes human lives easier in a smart era and elevates social well-being. We take into careful consideration regarding Smart Manufacturing - integrating environmental protection and social innovation at a product's design stage. As a result, ASEH has produced more efficient products and helped customers lower their power consumption when using our products, contributing to a reduction in greenhouse gas emissions. The effects of product usage on human health were also considered and efforts have been made to manufacture products with non-hazardous materials, and Improve recyclability, with Enhance product durability.

ASEH is committed to improving and protecting the environment by enhancing raw material usage efficiency, recycling resources, reducing wastewater discharge and greenhouse gas emissions, and reducing waste generation and chemical use. We strive to develop and promote comprehensive, environmentally friendly services and manufacturing processes that consider the environmental impact at various stages of the product lifecycle including raw material procurement, design & development, manufacturing, product use, and product disposal. This has enabled ASEH to provide the most environmentally friendly, green manufacturing services.



4.1 R&D and Innovation

Technology and innovation are the lifeline of our company. We have continued to invest heavily in advanced semiconductor packaging technology research and development and developing a strong engineering team, to produce high performance and cost-effective products that meet customers' needs. We have systematically mapped out a 10-year strategic blueprint that identifies key areas of technology focus by projecting industry and technology trends for the future. This will enable us to optimize our R&D resources and technology capabilities to seize important business opportunities and strengthen patent portfolios that further enhance our sustainability efforts. Our R&D expense increased 4.6% to NT$25,499.4 million in 2023, compared to NT$24,369.9 million in 2022, accounting for 3.7% and 4.4% of operating revenues in 2022 and 2023. As of December 31, 2023, our research and development team comprise 12,125 employees, an increase of 9.9% compared with 11,033 in 2022.



The advancements in 5G mobile communications have led to the availability of massive network capacities delivering ultra data speeds and low latency. It is also driving new application milestones in high performance computing, Artificial Intelligence (AI), Internet of Things (IoT), autonomous driving, and smart manufacturing that require highly integrated, multifunctional and high performance semiconductor chips. To that end, the semiconductor industry is geared towards the creation of a higher value, system level integration that will accelerate technologies for better performance and chip miniaturization. As a leader in advanced packaging, our innovations in heterogeneous integration have enabled the proliferation of smart and connected environments and electronic devices that greatly contribute to improving our lives.

Key products and technologies successfully developed in 2023 are as follows: (1) Flip Chip Packaging (FCP): HBM3 Memory stacking (2) Wire-bond packaging: Intelligent Wire-Bonding Defect Inspection Powered by Deep Learning and Computer Vision (3) Wafer Level Packaging: Fan-out WLP with Embedded Bridge Die and Passive Component Package, FOCoS-B (4) Advanced packaging and modulation: 3D voltage regulation module advanced packaging technology (5) Panel Level Packaging: Development of Embedded Tall Pillar, An Effective Uniformity Improvement for FOPLP Electroplating, Simulation Modeling of FOPLP for Warpage Behavior, Planarization of Material Topography (6) SiP Package: Highly Integrated SiP Module Packaged Module Solution (7) OEP: Optical module assembly development.

Our R&D teams work closely with our supply chain partners including material and equipment suppliers, as well as with key customers on new product and process innovations, to maximize scale and efficiency in technology development. In addition, we collaborate with academic and industry organizations such as the National Sun Yat-Sen University, National Cheng Kung University, National Taiwan University, Tsing Hua University, and ITRI on advanced packaging and testing technology development.

Technology Platforms

R&D is costly and time-consuming, and selecting the right products/ technologies in the early stages reduces the risk level. To address this, ASEH has established a market analysis taskforce consisting of an internal team of R&D staff, research institutions, suppliers, equipment manufacturers and customers. Through the taskforce, the Company is able to regularly exchange views on the latest market developments with players in the industry, focus on new product/technology development to meet emerging market demand, set short, medium and long-term R&D targets, and concentrate its resources on priority projects. In 2023, we held 95 seminars with research institutions, 115 workshops with suppliers and equipment manufacturers, and 198 technology blueprint alignment meetings with customers.

ASEH has formed a Technology Board consisting of experts from a wide range of professional disciplines to achieve horizontal integration and effective technology development through the integration of technology and knowledge sharing, and the creation of a platform for in depth analysis and discussions. Furthermore, we have set up a Knowledge Management (KM) platform that can be accessed globally to encourage employees to share innovative engineering technologies regularly. As of 2023, a total of 18 manufacturing sites and more than 6,800 employees had registered on the KM platform. The platform featured five categories, namely: e-OJT, Technology Board, BKM (Best Known Method), Green Innovation/Climate Change, and Customers/ Competitors/Suppliers/ External Consultants/Seminar Materials; and contained more than 11,000 technology related data records that had been viewed more than 50,000 times. ASEH will continue to improve the KM platform functions and strengthen the development of its core technology to increase the company's competitiveness and growth potential.

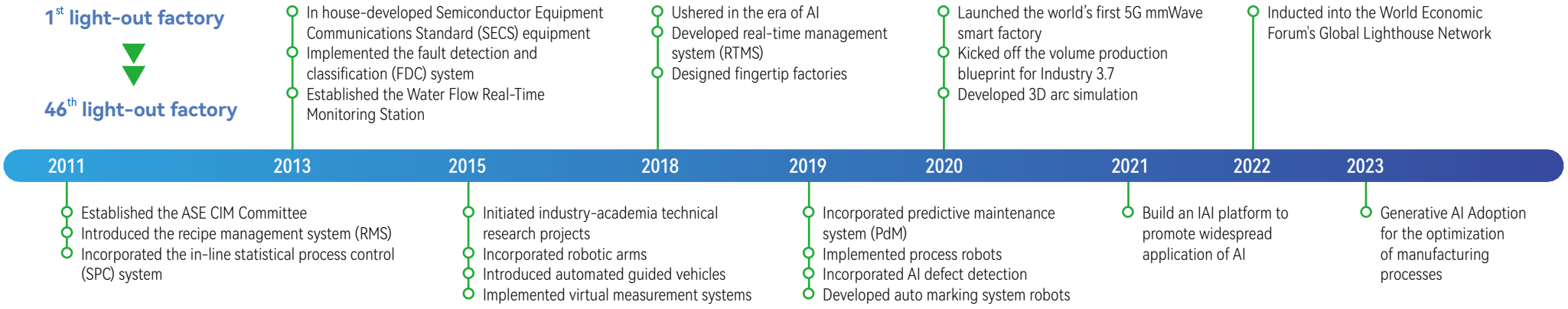
Smart Factories

Aiming to drive greater efficiency and improvements in our manufacturing process that will in turn deliver higher customer satisfaction in quality and delivery, ASEH began to invest in automated, lights-out factories in 2015. At ASEH, we are accelerating digital transformation in smart manufacturing through automation, heterogeneous integration in machine and production systems, and heterogeneous integration in systems-in-package (SiP). In 2011, ASE established the ASE CIM Committee, a strategic task force that is comprised of teams from various business units (lead frame packaging, ball-grid array packaging, flip chip packaging, wafer-level packaging, SiP packaging and test services) and the Information Technology Center. By 2023, the company has established 46 lights-out factories, trained more than 700 automation engineers, and developed over 57 industry-academia research projects. ASEH achieved another major milestone when its bumping facility in Kaohsiung was inducted into the World Economic Forum's Global Lighthouse Network, a community of production sites and value chains that are world leaders in the adoption and integration of the cutting-edge technologies of the Fourth Industrial Revolution (4IR).

Smart factories and automation transform our labor needs by allowing us to redeploy workers and train them for higher skilled jobs. The upgrade in our workforce will greatly improve productivity, increase employee engagement and create more sustainable value.

Smart Factory Transformation through Innovative and Breakthrough Approaches

Challenge	Problems encountered	Solution
Inadequate equipment connectivity	• To meet the needs of smart factories, production equipment information must be collected and stored in a central database so that real-time analyses and management can be conducted. • In the early days, due to the dearth of OSAT industry production equipment that met Semiconductor Equipment Communication Standards (SECS), equipment connectivity was the top challenge to be overcome.	• **Step 1:** Collaborate with procurement units to conduct negotiations with equipment suppliers and request that new production equipment meet SECS standards. • **Step 2:** Perform research on existing production equipment to find ways to achieve automatic connection and convert into compatible SECS formats. After years of development, ASEH's production equipment now meets SECS standards.
High complexity of product tracking	• Automotive customers require strict records of the production history of all automotive chips to facilitate tracking when problems occur. • In semiconductor chip manufacturing, product tracking begins at the wafer fabrication stage. The wafers will then proceed to the next process stage. Once the wafer is cut into individual dies for packaging, the dies do not have any markings for identification and tracking.	• Use 2D codes and RFID technology to accurately record the individual wafer and the location on the wafer that each die originated from, the location on the substrate and the locations on the die carrier and substrates. • All the location information are stored in the map system database that can be accessed any time. Customers are able to check production history, while our engineering teams can use the data to perform quality and yield analyses.
Lack of local automated equipment supply chains	• In the early stages, most automated equipment suppliers were large foreign suppliers that commanded high prices, were inflexible and provided long lead times. As a result, we faced delays in project completion and unsatisfactory outcomes.	• Actively look for local suppliers of automated equipment including automated guided vehicles, automatic storage and robotic arms, etc. In recent years, we have established business relationships with approximately 38 automation suppliers, strengthening the local automation industry chain in Taiwan.
Lack of qualified personnel	• When the ASE CIM Committee was initially established, there were only 30 engineers with expertise in automation.	• More than 700 smart factory automation engineers have been trained through the establishment of in-house automation and AI training modules as well as industry-academia research programs. • AI training modules. We launched the modules in 2018 to promote AI technology. Integrating the AI platforms into the production, engineering, and administrative departments help to popularize the IAI platform, and also ensure readiness for the upcoming No-code AI age. As of 2023, more than 10,000 individuals have been trained. • Intelligent Engineering training modules. Since the launch in 2022, our PE/EEs have received training in statistical analysis and equipment monitoring. The engineers also learnt how to optimize digital tools and ideas for project applications. As of 2023, more than 3,000 individuals have been trained. • Digital Application training modules: Starting in 2018, we created courses on digital tools such as RPA, Qlick View, Doc. Bee, and Co-know to train administrative and support staff to utilize digital tools effectively. As of 2023, more than 8,000 individuals have been trained.



Smart Factory Milestones

2011	Introduced the recipe management system (RMS)	As a control measure before mass production, the EAP transfers data to equipment through SECS/GEM, ensuring data validity and improving overall equipment efficiency (OEE).
2013	In house-developed Semiconductor Equipment Communications Standard (SECS) equipment automation program (EAP)	To overcome challenges in equipment connection program development, we designed a development platform for standardized equipment connection programs, solving process design problems, lowering program development complexity, and increasing human-machine ratios and operation time.
	Implemented the fault detection and classification (FDC) system	By collecting equipment production parameters in real-time, systems are able to report equipment status immediately and check formal functions automatically so that warning signals are issued when malfunctions occur, thereby preventing the repeated manufacturing of defective products and ensuring that reporting mechanisms are in place to detect malfunctions in real time.
2015	Introduced robotic arms and automated guided vehicles (AGVs)	AGVs and robotic arms were integrated to introduce the autonomous mobile robot (AMR) that can support transport operations, thus reducing manpower on the floor and maximizing packaging capacity.
2018	Ushering in the era of AI	Applying AI powered detection technology to identify and intercept any malfunctioning equipment that may compromise information security and prevent any information security incidents. The in house-developed technology helps mitigate information security risks and reduce investment costs.
2019	Incorporated the predictive maintenance system (PdM)	A predictive maintenance system helps determine equipment that is likely to require maintenance and predicts equipment component failures and malfunctions in advance. The system allows early notification of maintenance personnel to service the equipment, thereby lowering equipment failure time.
2020	Launched the world's first 5G mmWave smart factory	The 5G mmWave smart factory was a collaborative effort between ASE, Chunghwa Telecom and Qualcomm, showcasing the future of automation and smart factories. 3 use cases were developed to demonstrate the use of 5G mmWave in smart factories - automated production line inspection using AI+AGV, remote AR maintenance and the AR experience at the ASE green technology center.
2021	Build an IAI platform to promote the universal application of AI	ASEH ushered in the era of AI. In addition to actively cultivating AI technology talent, we began to build the IAI platform to create an AI no code environment and promote widespread application of AI throughout the company.
2022	Inducted into the World Economic Forum's Global Lighthouse Network	ASE's Bumping Factory in Kaohsiung adopts 4IR (Fourth Industrial Revolution) technologies across its manufacturing operations. In particular, the facility applies AI technology in the management of equipment and processes to improve yield and accuracies in production schedules. As a result of the remarkable integration of 4IR, the facility was inducted into the World Economic Forum's Global Lighthouse Network (GLN).
2023	Generative AI Adoption for the optimization of manufacturing processes	ASE Kaohsiung's smart manufacturing is continuously evolving and the team is actively harnassing AI to optimize production processes. Our manufacturing processes for a diverse range of products are complex, and AI adoption is helping to improve worker productivity that minimizes work-in-progress costs and maximizes yield. Applying AI enables better optimization of machine and shipment scheduling to meet delivery deadlines, ensuring the most efficient production schedules in the shortest possible time. The extensive data mining and analysis, combined with the factory's 24/7 operations have resulted in widespread AI applications at ASE Kaohsiung.

A Dual-axis Approach in Smart Manufacturing Transformation and Sustainable Development

ASEH is proud that its Kaohsiung bumping facility was inducted into the WEF Global Lighthouse Network (GLN), the gold standard for AI in manufacturing. We remain committed to a dual-axis approach that focuses on advancements in smart manufacturing and sustainable development simultaneously. The integration of Industry 4.0 technologies with AI will drive greater efficiencies into our operations and accelerate sustainability improvements at scale.

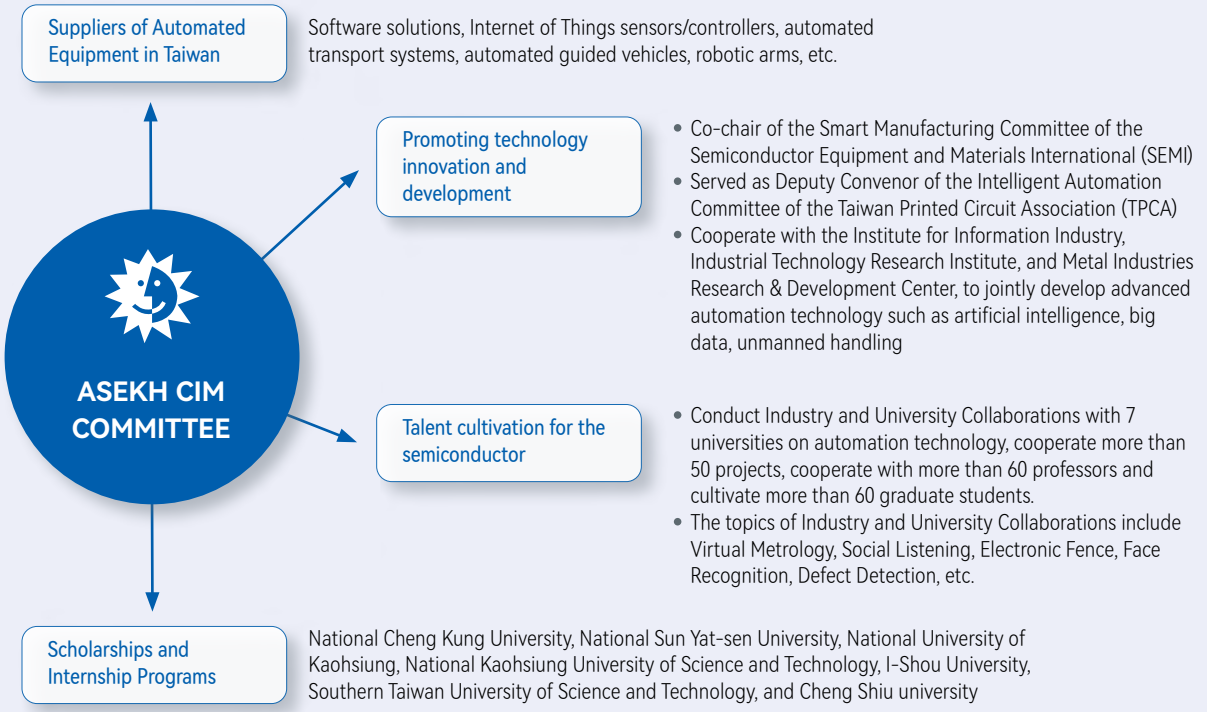
To address the production scheduling of varied products in a smart manufacturing environment, key factors are collected and AI algorithms are used to train and create an optimized production model. The model removes the need for manual scheduling and machine programming; saving time, and maximizing production schedules, productivity and manufacturing efficiency. Advanced process control systems utilizing AI image recognition, machine learning, large language models, and feature engineering enable real-time monitoring of various production information, and trigger alerts in the event of any anamolies. In addition, the system is capable of predicting equipment lifespan, thereby allowing timely maintenance to reduce downtime and impact, and maintain optimal yield.

In line with our sustainability goals, we have implemented smart energy management across our manufacturing facility to reduce energy consumption and greenhouse gas emissions. By applying a comprehensive AI-augmented database and monitoring system to establish automatic control, we were able to efficiently adjust manufacturing equipment such as chillers and filter fans in the clean room according to environmental conditions and production needs. In regard to water resource management, we monitor post-process water discharge with the latest fluorescence identification technology to detect trace organics. Combined with the power of AI computation, we were able to optimize the use of water resources to reduce tap water consumption, prevent wastage, and improve recycling. For our waste management, we work closely with multiple partners to create circular solutions for resource optimization. Digital tracking and AI tools are used to closely monitor the movement of vehicles transporting residual waste, ensuring proper treatment of waste disposal and mitigating environmental impact.

In light of fierce competition and climate change, ASE Kaohsiung is capitalizing on its people-centric culture to advance smart transformation and sustainable development simultaneously. The company is investing in resources to train and upskill its employees, reshaping their value and demonstrating our commitment to the environment and net zero. Most importantly, we hope to lead and influence the industry toward a more sustainable future.

Sustainable Impact of Smart Factories

Our smart factory concept began with a strong foundation in automation, and the heterogeneous integration of customers, suppliers and production processes, to drive the semiconductor industry onto a higher value chain and accelerate technology advancements. Smart factories represent the next leap for the semiconductor packaging and test industry to play an enabling role beyond More than More.



Procurement

8.1 billion in Local Procurement

- Promoted economic development through local procurement, generating nearly NT$2.6 billion of output value in equipment supplier and facilitating NT$8.1 billion in local procurement[1]

1,073 Indirect Job Opportunities

- Cultivated approximately 38 local automation suppliers, creating 1,073 jobs in the supply chain

Manufacturing

990 million Social Cost Reduction

- Accelerated ASEH's digital transformation in manufacturing, lowered employee overtime, resulting in a reduction of social costs by approximately NT$990 million[2]

700 AI Talents

- Increased the value of our human capital through up skilling in automation and AI for more than 700 employees

Customer Service

10 billion output value

- Enabled customers to obtain market opportunities and develop innovative product applications, creating an output value of more than NT$10 billion

46 lights-out factories

- Completed 46 lights-out factories to improve product yields shorten time to market, and helping customers develop new markets

[1] The amount of revenue generated and the number of jobs created in the supply chain were calculated using input-output analysis (IOA). In our calculation, we used the data from the OECD Input-Output Tables and the EXIOBASE 2 database as references and assumed that all suppliers are based in Taiwan

[2] Employee overtime was calculated using accumulated data since the adoption of digital transformation. We referenced data from the Eco-costs database to analyze the reduction in risks to health damage due to a reduction in overtime and work hours from the implementation of factory automation. The data was converted into monetary value according to OECD (Organization for Economic Co-operation and Development, 2012) guidelines

Automation technologies introduced in 2023:

<table>
<tr><th>Technology</th><th>Solutions and Achievements</th></tr>
<tr><td>IAI Platform 2.0</td><td>The IAI platform aims to accelerate the spread of AI education, knowledge and experience-sharing, and foster a corporate culture of “AI for everyone.” The platform is capable of developing forecast models based on available data to meet production, quality and process goals. For the upgraded 2.0 platform, improvements have been made to 58 algorithms in 11 categories, support for NPI, NPD, and MP operations has been added, and a wider array of AI services for problem-solving is offered.</td><td>
2023 Achiements
The number of AI Project is 587
(2.66 times that of the previous year)
The number of deployments is 377
(1.27 times that of the previous year)
The number of Models is 7,407
(4.28 times that of the previous year)
The cumulative number of people who passed the verification is 15,199
(4.92 times that of the previous year)
<table>
<tr><th></th><th></th><th>Image Recognition</th><th>Numerical Analysis</th><th>Abnormal Detection</th></tr>
<tr><td>Multi-objective</td><td>Difficulty: 70~100
Professor Level Data Scientist
AI maintenance and management</td><td>AI Project:
QA X-Ray AI Detection</td><td>AI Project:
NPI yield and cost optimization /predictive maintenance/AI knowledge map</td><td>AI Project: Gap analysis between different machines</td></tr>
<tr><td>No-Code</td><td>Difficulty: 0~70
Amateur Level Data Scientist
No Code</td><td>Self-developed:
CV Platform</td><td>Rent first and self-develop later:
No-code AI Platform</td><td>Self-developed:
AD Platform</td></tr>
</table>
</td></tr>
<tr><td>AIoT For ESG</td><td>Through the use of AIoT technology, we were able to improve the operation of our fan filter units (FFUs), implement an intelligent wastewater management module, and employ a carbon footprint verification system. This allows us to individually control the load of different clean rooms, optimize the amount of chemicals in water treatment plants, and monitor our carbon footprint information in real time, all of which contribute to energy savings, lower abatement costs, and carbon reduction.</td><td> 


</td></tr>
<tr><td>PHM</td><td>PHM is designed to examine and monitor equipment health and predict when maintenance is required.
PHM is highly effective in increasing the safety of industrial machinery by lowering the likelihood of catastrophic failures.</td><td>• Technological innovation and data-driven solutions, including real-time monitoring, data analysis, and machine learning - quick equipment diagnosis and repair
• Reduces risks and enhances efficiency, minimizes equipment failures, and boosts production efficiency - robotic arm stability assessment
• Generates benefits for sustainability and the environment, reduces energy use and equipment waste - motor diagnostics</td></tr>
</table>

Intellectual Property Management

Intellectual property (IP) rights are important achievements in research and development, and a key aspect of innovation management. Effective IP management helps to maintain ASEH's leading position in corporate innovation.

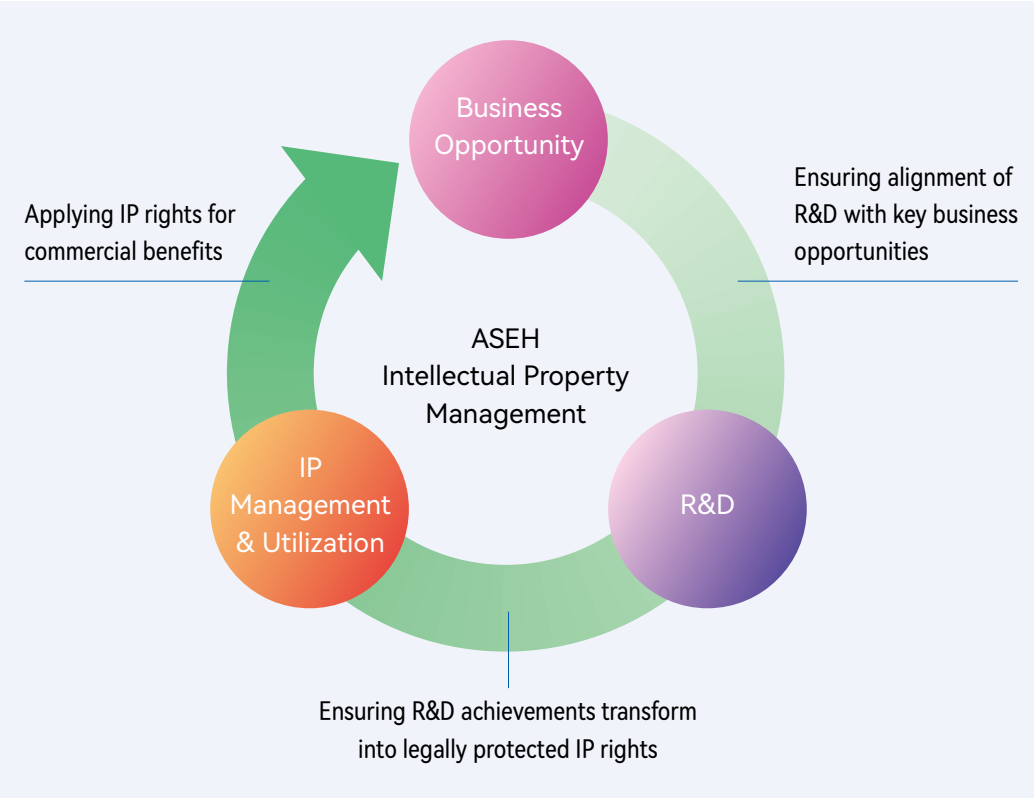
ASEH has established an IP policy that serves to protect the company's technological innovations and its global leading position. In addition to continuously striving towards R&D innovation and developing IP management strategies that conform with the company's development trends, ASEH's IP management also helps to generate commercial benefits for the company.

ASEH's IP management is tightly embedded into the company's business operation blueprint, forming a continuous innovation cycle that encompasses business opportunities and R&D, to IP management and utilization that includes the following three phases:

Step 1: To maintain ASEH's technology leadership and to better respond to future market needs, the company invests aggressively in research and development, aligns R&D with key future business opportunities and invests heavily in talent development and R&D resources.

Step 2: Our robust IP application system and tools ensure that R&D achievements are transformed accurately, thoroughly and effectively into legally protected intellectual property rights. To ensure comprehensive protection for key technologies and strengthen patent quality, ASEH adopts a 3-pronged approach: developing a comprehensive portfolio, re-assessing patents to identify those of value and, revitalization to increase the value. Patents must also provide business value in order to maximize R&D investment returns. ASEH puts in place a system of measures to protect the company's trade secrets and maintain its unique competitive advantage, including information security systems, employee awareness training and education and systematic management. Where appropriate, the company will enforce applicable laws and regulations to prevent improper use, leakage or misappropriation of the company's intangible assets by others to ensure that ASE's investments, rights and interests are duly protected.

Step 3: High-value IP helps to facilitate business success, obtain customer orders and develop more business opportunities, thereby creating a positive sustainable cycle. Our robust IP management prevents unauthorized use of ASEH's technologies by others and helps to defend against any threats from competitors.



To learn about the benefits of intellectual property rights to ASEH sustainable development, please refer to ASEH website-ESG | Sustainability Governance | Intellectual Property Management. The link is https://www.aseglobal.com/csr/sustainability-governance/ip-management/

Advanced Semiconductor Engineering, Inc., the subsidiary of ASEH, filed with Certification Body – the Institute for Information Industry - an application for the renewal of Taiwan Intellectual Property Management System (TIPS) (A Class) certification first issued by the Industrial Development Bureau of the Ministry of Economic Affairs in 2021and successfully accomplished the recertification process. The renewal of TIPS certification (A Class) is valid until December 31, 2024.

Based upon the foundation of long-term practices on intellectual property management, ASEH further enhanced the scheme of its intellectual property management, strengthened employees' intellectual property value awareness, intensify all aspects of protections of R&D achievements, and promoted the trust of its shareholders and customers in company by introducing TIPS framework and obtaining external certification.

As of January 31, 2024, ASEH owned 6,433 patents, primarily in various assembly and testing technologies as well as electronic manufacturing services technologies, including 2,179 patents in Taiwan, 2,015 patents in the U.S., 2,088 patents in the People's Republic of China, 104 patents in Europe and 47 patents in other countries.

Intellectual Property Management and Utilization

Trade secret

- Create a registration management system to protect trade secrets.
- We continuously enhance best practices through information security protocols, awareness promotion, comprehensive training, and systematic management.
- Where appropriate, we apply applicable laws to deter unauthorized access to company information and assets, protecting our investments and safeguarding our interests.

Patent

- Place equal emphasis on patent quantity, quality, and value. Focus on three major approaches on patent management: comprehensive planning, curating patents of value, and value enhancements.
  - ➤ Develop a comprehensive patent plan for critical technologies at an early stage.
  - ➤ Regularly evaluate patents, identifying those of value, and dropping those of low or no value from renewal.
  - ➤ Revitalize patents to enhance their value and scope of application.
- Foster strategic partnerships with key customers, and academic research institutions, to collaborate on R&D, develop plans for patent applications, and acquire critical patents.

4.2 Sustainable Manufacturing

Sustainable Manufacturing Concepts and Principles

As a manufacturing service provider, ASEH embraces the concept of "doing more with less"and committed to four sustainable manufacturing principles, namely sustainable designs, sustainable procurement and material selection, sustainable production and sustainable packaging and logistics. In the initial product/process design stage, sustainable manufacturing practices (as shown in the diagram below) are incorporated into the entire product life cycle; from raw materials, manufacturing, distribution, usage, to disposal, as well as at subsequent stages of product manufacturing and distribution. Our approach allows us to provide customers with sustainable products of higher value while minimizing the impact to the environment and improving eco-efficiency.

We are committed to:

- Compliance with all applicable laws and regulations
- Managing hazardous substances in components and raw materials used in manufacturing
- Creating solutions for the design of lightweight, thin, small and energy-efficient products
- Reducing the environmental impact from manufacturing, packaging, and transportation

In 2023, 61.46% of our products revenue provide resource efficiency benefits by saving energy during use phase to avoid emission of 403,004 metric tons CO_2e, having smaller form factors thereby enabling reduced material consumptions in terms of compliant with EU's WEEE directive.

Green Laboratory

The ASEH green laboratory conducts R&D and indepth analysis of green materials right from the source. The lab is part of ASEH's initiative to strengthen the company's green solutions by actively developing green manufacturing processes and using environmentally friendly packaging materials.

- Evaluation and development of green materials: Non-toxic/ mildly toxic raw materials and chemical products
- Development of environmental testing technology: Establish monitoring technology, mechanisms and standards in compliance with global environmental regulations
- Developments in green manufacturing: Evaluate the technologies in recycling, reduction, and reuse of materials and waste
- Development of environmental-friendly packaging: Develop bio-composite material packaging

Sustainable Raw Materials

ASEH recognizes that the semiconductor and electronics manufacturing industry consumes a substantial amount of raw materials. The ASEH Board of Directors have approved the following Sustainable Raw Materials Policy based on the company's sustainable manufacturing principles.

	Raw Materials	Raw Material Suppliers
Tracing and Collecting Data	• **Material Tracking and Origin Tracing:** Regularly tracking the volume of raw materials consumed from ASE's conflict mineral, cobalt, mica and other key raw material suppliers. In 2023, we conducted extensive source tracing of 18 additional metals, including copper, iron, nickel, aluminum, silicon, and silver.	• **Proactive investigation:** We conduct preliminary assessments on our suppliers based on key factors like level of business relationship and procurement value. At the same time, we review the risks of potential negative impacts on the environmental, social, and governance dimensions with respect to the supplier's category type (including raw material suppliers etc.).
Risk Assessment	• **Non-toxicity:** Enhancing product compliance with regulations and customers' sustainability requirements by establishing a hazardous substance process management system to ensure that the raw materials used for production do not contain substances harmful to humans or the environment. • **Recyclability:** Our environmental laboratory conducts green material assessments, develops non-toxic (or low-toxicity) raw materials, as well as analyzes material and waste recycling, reduction, and reuse technologies. • **Eco-friendliness:** Using Life Cycle Assessment (LCA) techniques to analyze the environmental impact of products and raw materials, and identifying improvement opportunities through hotspot analyses to enhance the eco-friendly content of products and raw materials. • **Conflict Materials:** Aligning with the due diligence process established by the Organization for Economic Cooperation and Development (OECD) to regularly examine the country of origin of raw materials (including conflict minerals) to avoid using materials from conflict zones.	• **Sustainability risk:** A Sustainability Risk Assessment Questionnaire (SAQ) was developed based on the RBA Code of Conduct and international standards such as the UN Universal Declaration of Human Rights. Sustainability risk assessments for all first-tier raw material suppliers are conducted regularly. • **Climate Risk:** Utilize the World Resources Institute (WRI) database to assess supplier water stress, and integrate data on extreme rainfall conditions to identify suppliers at risk of experiencing flooding and landslides. • **Biodiversity:** Determine if raw material suppliers' production locations are biodiversity-sensitive by using data from the International Union for Conservation of Nature's (IUCN) World Database on Protected Areas (WDPA)
Coordinated Action	• **Eco-Design Guidelines:** Eco-design guidelines have to be incorporated throughout all advanced technology development and new product development stages, especially in the selection of sustainable raw materials (choosing materials with lower negative sustainability impacts, avoiding materials from key biodiversity areas, and prioritizing the use of recycled metals, minerals and materials with third-party certifications).	• **Supplier Guidance:** Conducted programs to guide raw material suppliers in managing carbon inventory, renewable energy development, carbon reduction and water conservation. Supported a total of 102 suppliers in 2023.
Targeted Action	USI has set a target of 17% by 2025, for the use of recycled plastic in its products.	Target number of on-site sustainability audits for raw material suppliers: 100 (by 2030)

	2021	2022	2023
the proportion of recycled plastic used in products	NA	NA	16.72%

	2021	2022	2023
the number of on-site sustainability audits for raw material suppliers	125	187	201

We conduct training for employees involved in managing the sustainability aspect of raw materials, educating them on green products (hazardous substance control), environmental protection, business ethics, supplier sustainability management, and conflict minerals. In 2023, 46,563 people participated in these training courses resulting in the increase of environmental awareness, and understanding the significance of utilizing appropriate raw materials for sustainability.

Management of Hazardous Substances and Chemicals

To achieve sustainable manufacturing, effective management of hazardous substances is crucial. At ASE, we have formulated a comprehensive framework that includes optimizing the green product management system (GPMS), establishing a database of all substances, and ensuring compliance with customer requirements, the EU RoHS Directive, REACH regulations, Energy Star and the Energy-related Products (ErP) directives. Our policies for the management of hazardous substances are designed to be much stricter than regulatory procedures and governing trends.

We have expanded our control measures for chemicals that cause health hazards and increase environmental risks, including bioaccumulation, persistent pollutants, and materials that affects fertility, are carcinogenic or mutagenic. In addition to managing the chemical content in our products, any newly introduced chemicals that fall within the scope of customer restrictions or the EU REACH Restricted Substances List, during the manufacturing process will be prohibited for use and replaced with another qualified substance. Our policies are aimed at providing employees with a safe and healthy environment that allows them to work with a peace of mind, and advancing towards the goal of a green industry.

ASEKH, ASECL, SPIL and USI have selected Mineral oil aromatic hydrocarbons (MOAH) consisting of 1 to 7 aromatic rings and Mineral oil saturated hydrocarbons (MOSH) consisting of 16 to 35 carbon atoms as Hazardous Substances. MOAH consisting of 1 to 7 aromatic rings has been controlled at < 10000ppm and by below targets:

- MOAH consisting of 1 to 7 aromatic rings < 1000ppm by 2025/1/1
- MOAH consisting of 3 to 7 aromatic rings < 1ppm by 2025/1/1
- MOSH consisting of 16 to 35 carbon atoms < 1000ppm by 2025/1/1

Product Lifecycle Assessments

We have incorporated the ISO 14067 product carbon footprint and ISO 14045 eco-efficiency assessments into our operations and have completed the inventory and evaluation of our five major packaging product series (i.e., BGA, Lead Frame, CSP, Flip Chip, Bumping). We have also extended the analyses of key "substrates" and conducted environmental impact analysis of product life cycles. In addition, we have established databases and incorporated simulation algorithms for product research and development to increase product value while elevating ecological efficiency. We provide our customers a complete suite of manufacturing services as well as the development of energy-saving products such as wireless communication modules, POS machines, ATX power supplies that connect to multiple desktop outputs, motherboards, smart handheld devices, NAS systems, SSDs and server systems.

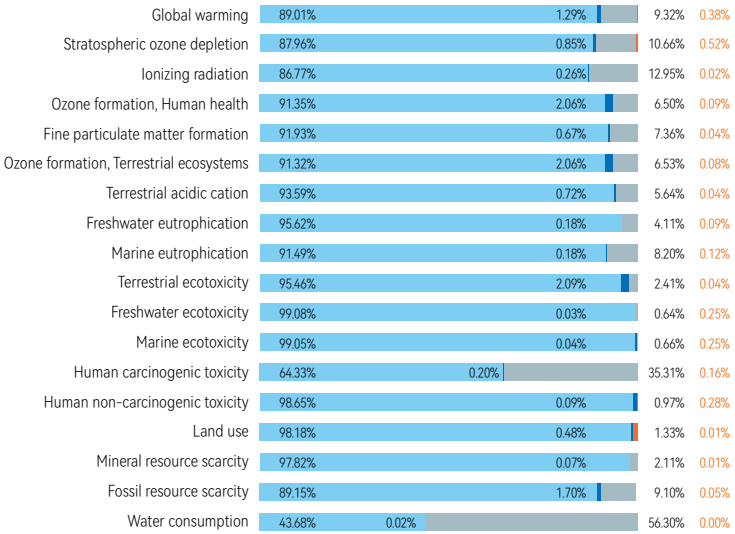
Category	Product Series	Carbon Footprint	Eco-efficiency Assessment/ Environmental Footprint	Improvement Strategies and Actions
Assembly	BGA	Updated	Updated	**Design** • Consider factors such as product lifecycle, circulation and eco-efficiency during the design stage • Develop a new generation of energy efficient products • Upgrade technology, strengthen product functions, and reduce material inputs Example: Develop high density QFP to replace traditional QFP led to a decrease in material usage by 60% **Procurement and materials** • Select environmentally compatible materials that generate low-carbon emissions Examples: Copper wires are used to replace gold wires, lowering product carbon emissions • Utilize environmentally friendly alternative materials Examples: Use of boron-free developers, non-reproductive toxic photoresist stripping solutions, halogen-free materials • Research and develop recycled materials or extend product service life **Production** • Introduce smart system controls to improve efficiency in energy utilization • Enhance manufacturing process equipment or components to increase product lifecycles • Value chain cooperation and material recycling Examples: Organic compound cyclopentanone, acetone recycling, plastic carbonization application • Adopt innovative technologies to reduce the impact on ecology Examples: O_2 gas replaces CF_4 gas to reduce carbon emissions in the process **Packaging and logistics** • Material recycling Examples: Recycling of buffer materials, pallets and logistics boxes • Avoid the use of foams with a substantially negative impact on the environment • Promote low-carbon transportation Examples: Switch from air freight to sea freight, use green energy vehicles
	Lead Frame	Done	Done	
	CSP	Done	Done	
	Flip Chip	Updated	Updated	
	Bumping	Done	Done	
	SiP Technology	Done	Done	
Substrate		Done	Done	
Test		Done	Done	
Electronic Manufacturing Services,EMS	4G dual frequency communication module	Done	Done	
	XnBay smart storage server	Done	Done	
	Printer head	Done	Done	
	LCD Drive Board Series	Done	Done	
	Industrial tablet	New	New	
	Clickshare button	New	New	
	Wiper controller	Ongoing	Ongoing	
	Charger for hearing aids	Ongoing	Ongoing	
	Motherboard for Automated Teller Machine	Ongoing	Ongoing	

In addition to conducting product lifecycle assessments, we also form collaborations with experts to incorporate the use of assessment software such as SimaPro and the ReCiPe 2016 Midpoint(H) methodology that measures the impacts from 18 different environmental aspects. The methodologies were applied to our Flip Chip Packaging process, where we analyzed the environmental impact based on the different types of wires used in the bonding process. Through the study, it was discovered that gold wire bonding produced the greatest impact. As such, we began gradually replacing gold wires with copper wires. We have also been developing packaging technologies that do not require wirebonding, and advanced packaging solutions that help reduce the impact to the environment.

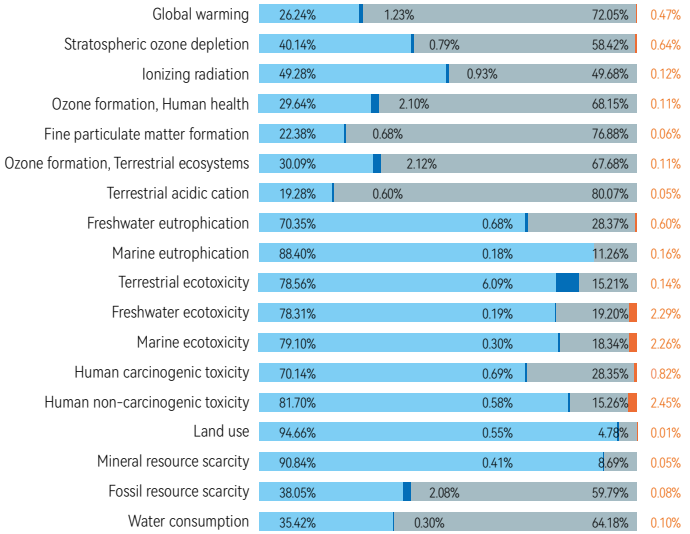
Life Cycle Assessment Results

According to the analysis results, particulate matter formation, climate change impacts on human health, and carcinogenic toxicity are the main environmental impact categories along the life cycle of industrial tablet and smart wireless conference products.

Environmental impact of industrial tablet



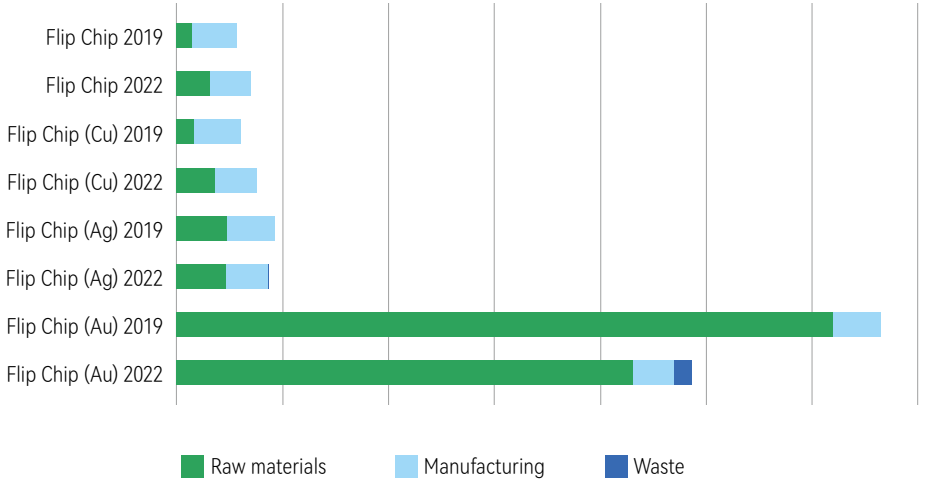
Environmental impact of clickshare button



Raw materials
Transportation
Manufacture
Manufacture (Waste)

In 2023, we updated our Flip Chip packaging product LCA, excluding the IC chip in raw materials. (Note 1) We discovered that the environmental impact of our Flip Chip packaging products ranged between 73% and 123% of the results from the 2019 analysis. However, when focusing specifically on the manufacturing stage, the environmental impact was only 90% of the 2019 results, indicating that our process improvements have effectively reduced environmental impacts. Some of our products have recorded an increase in ecological impacts during the raw material stage. This is primarily because our technological advancements have led to the miniaturization of the package sizes, increasing the material density per unit volume and consequently, increasing the environmental impact per unit volume. Nevertheless, due to the vastly reduced size of the package over the entire product life cycle, the environmental impact for the completed product has also decreased.

Environmental impact of Bumping process



Note 1: IC chips are specified by customers and have a high environmental impact that cannot be mitigated, so they are excluded to better reflect the company's performance.

4.3 Products and Service

ASEH provides the design, manufacturing and enabling of many electronic end products, including smartphones, PCs, tablets, game consoles, security chip cards, automotive sensors, entertainment systems and many more. We offer a broad range of advanced and legacy semiconductor packaging and testing services as well as electronic manufacturing services. The semiconductors we package are used in a wide range of end-use applications, including communications, computing, and consumer electronics, industrial, automotive and other applications. Our testing services include front-end engineering testing, wafer probe, final testing and other related semiconductor testing services.

Our electronics manufacturing services are used for various applications, including computers, peripherals, communications, industrial applications, automotive electronics, and storage and server applications.

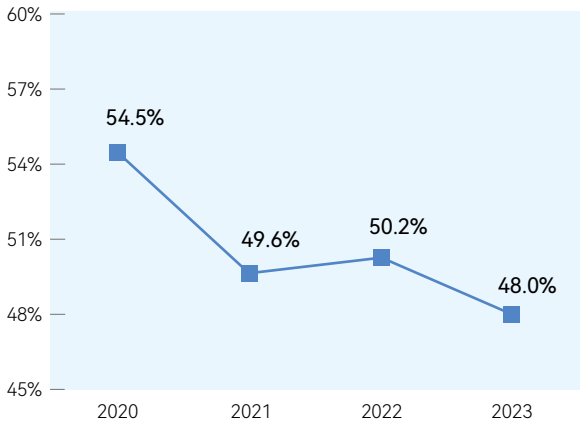
Customer Service

Our key customers typically operate in the semiconductor and electronics industries. In 2023, our five largest customers together accounted for approximately 48% of our operating revenues. To achieve total customer satisfaction, we uphold world-class quality and reliability for our products and services through thoughtfully defined quality assurance methodologies. Our quality assurance systems impose strict process controls, statistical in-line monitors, supplier control, data review and management, quality controls and corrective action systems. There were no product recalls (arising from health or safety concerns) issued by customers in 2023.

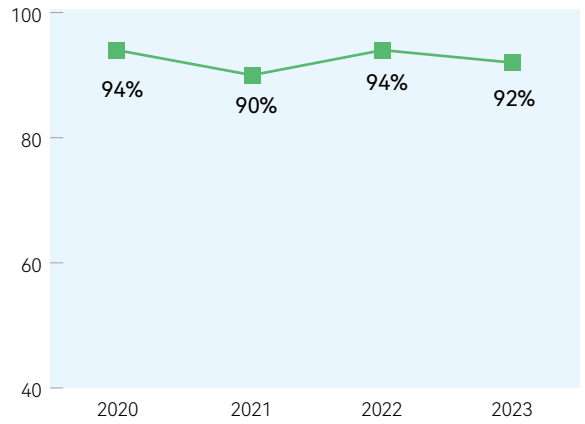
To ensure that customer suggestions are properly processed, we have a dedicated team in place for reporting feedback and managing customer communication. We have designed multiple communication channels with customers which include technical forums, and regular email updates on significant events, milestones and business highlights. In addition, we actively participate in various technology forums to promote our advanced manufacturing processes and innovative technologies.

In order to provide the best customer service, we reach out to our customers through various means and at different intervals, including monthly/quarterly customer surveys for evaluating quality, cost, delivery, technology, and service/sustainability, customer surveys, annual/quarterly/monthly meetings and the supplier award program. We have also set our annual customer satisfaction target at 90% (i.e. at least 90 of our top 100 customers remain satisfied.) We continue to focus deeply on improving customer satisfaction to establish trust and value for our customers.

Top 5 Largest Customers Together Operating Revenues Accounted (%)



Key Customers[1] Satisfaction Trend



[1] Key customer: ASEH's top 100 customers, which contributed more than 90% of the company's operating revenues in 2023

GREEN MANUFACTURING AND LOW-CARBON TRANSFORMATION

ASEH is committed to improving our eco-efficiency and protecting the environment by continuously enhancing resources recycling, and reducing greenhouse gas emissions, waste generation, wastewater effluent, and chemical usage.

ASEH strives to develop and promote an environmentally friendly manufacturing and service concept in all facets of its enterprise. From material procurement, design, manufacturing, product use, and disposal, we conscientiously incorporate environmental impact factors at all stages of the life cycle to provide green and low-carbon manufacturing services.

Supplier identification and assessment of climate and natural risks

SER Leaderboard

On the CDP Supplier Engagement Rating leader board for 5 consecutive years

CDP

Water Security A List

Awarded CDP Water Security for 4 consecutive years

CDP

Climate Change Leadership

On the CDP Climate Change list for 8 consecutive years

CDP

Concrete actions to restore biodiversity

2023 Key Performance

28

Green certifications

100%

Identification and assessment of climate and natural risks

Net Zero

Net-Zero emissions target by

2050

574 carbon reduction solutions to reduce GHGs emissions by

603,327 tCO_2e

20%

Total electricity consumption achieved through renewable energy or REC

SDGs	Business Actions and Contributions	2023 Key Aspects	KPI	2023 Target	Status	2023 Performance	2024 Target	2030 Target
	• Develop and implement holistic water strategies within the scope of our business and supply chain operations that are socially equitable, environmentally sustainable and economically beneficial • Protect and/or restore water-based ecosystems across our operation and supply chain	Water Resource Management	Water withdrawal intensity (water withdrawn/revenue)	8% reduction compared to 2015	Achieved	46% reduction compared to 2015	31% reduction compared to 2015	52% reduction compared to 2015[1]
			Days of production shutdown caused by phase 3 water rationing in Taiwan (water supply reduced by 30%)	0 days	Achieved	0 days	0 days	0 days
	• Significantly increase energy efficiency, obtain remaining energy needs from renewable sources, and leverage support from suppliers to promote the similar actions across our supply chain	Energy Management	Energy saving rate achieved through energy saving and carbon reduction projects	Equivalent to 2% of the electricity demand in 2023	Achieved	Equivalent to 4% of the electricity demand in 2023	Equivalent to 2% of the electricity demand in 2024	Equivalent to 2% of the electricity demand in 2030
	• Develop and implement business models that deliver sustainable energy and energy efficiency technologies to new markets and communities		Renewable energy ratio	Renewable energy consumption accounts for 21% of total electricity consumption	Not Achieved	Renewable energy consumption accounts for 20% of total electricity consumption	Renewable energy consumption accounts for 24% of total electricity consumption	Renewable energy consumption accounts for 42% of total electricity consumption
	• Design and adopt a responsible, circular business model • Shift to a portfolio of goods and services that requires less resources and produce less waste	Waste and Circular	Non-hazardous waste recycling rate	90%	Achieved	97%	90%	90%
			Hazardous-waste intensity (hazardous waste output/ revenue)	8% reduction compared	Achieved	58% reduction compared to 2015	37% reduction compared to 2015	61% reduction compared to 2015[2]
	• Align with science based climate targets to substantially reduce emissions associated with our business and supply chain operations	Climate Strategies	GHGs intensity (Scope 1 & 2 emission/revenue)	8% reduction compared to 2015	Achieved	45% reduction compared to 2015	9% reduction compared to 2015	15% reduction compared to 2015
			Absolute GHGs reduction (Scope 1 and 2)	17.5% reduction compared to 2016	Not Achieved	2% reduction compared to 2016	20% reduction compared to 2016	35% reduction compared to 2016
			Absolute GHGs reduction (Scope 3)	4.5% reduction compared to 2020	Achieved	50% reduction compared to 2020	6% reduction compared to 2020	15% reduction compared to 2020

[1] ASEH was able to reduce 46% water withdrawal intensity in 2023 from the 2015 level, exceeding the 2030 target of 15%. As such, the 2030 goal was changed from 15% to over 52% in 2024
[2] ASEH was able to reduce 58% hazardous waste generated intensity in 2023 from the 2015 level, exceeding the 2030 target of 15%. As such, the 2030 goal was changed from 15% to over 61% in 2024

5.1 Climate Leadership

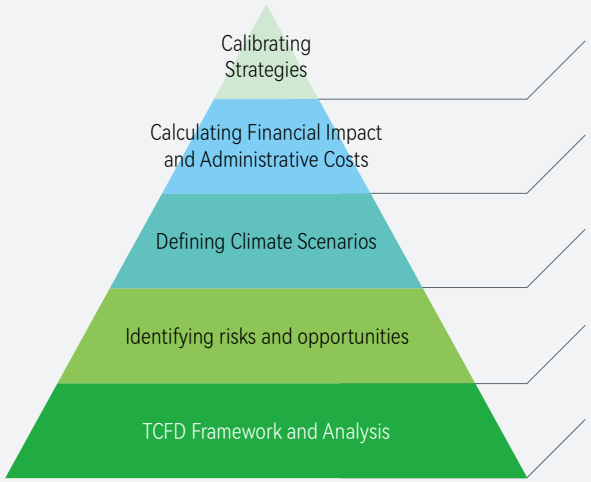
Building Low-Carbon Resilience through Transformation

In order to limit global warming to 1.5℃, ASEH is fully committed to achieving net zero emissions across the value chain by formulating (1) low-carbon strategies, (2) a comprehensive management framework, (3) socially responsible actions, and (4) performance-oriented results. Our near-term targets are approved by the Science Based Targets initiative (SBTi). We are also in the process of submitting our net-zero 2050 pathway to SBTi. Adopting international management frameworks into our low carbon strategy has enabled us to strengthen our internal systems. We are also improving our production models by adopting prudent actions, co-creating green value with our value chain partners, and consistently evaluating our performance to build resilience in the face of climate change.

To encourage employee action on climate change mitigation, we have included greenhouse gas intensity targets (measured as greenhouse gas emissions per unit of revenue) and water intensity targets (measured as water consumption per unit of revenue) as part of the KPI[1] for specific employees (including senior executives)[2] from 2021 to 2023. Each year, a third party organization is appointed to verify the achievement of these targets, and employees who meet the goals are eligible for restricted stock as incentives[3].

Climate change is complex, and presents a plethora of challenges and opportunities for ASEH that underscores the physical and transformational impacts to the company. Government legislation, new technology developments, evolving market demands, customer expectations, and natural disasters are some key factors that contribute to our gradual transformation into an operation focused on decarbonization. Over the years, we have successfully managed crises and transformed risks into opportunities. It is our hope to continuously expand ASEH's low carbon footprint through our development of low-carbon solutions for the global market. In addition to our sustainability reports, we will publish the Climate and Environment Report[4] in 2024 (integrating ASEH's TCFD[5] report with TNFD[6] disclosures) that will allow more stakeholders to learn about our plans, milestones, and strategies towards net zero and preserving biodiversity.

[1] A continuous reduction of 1% in intensity per year with 2015 as the baseline year
[2] Key employees that are involved in long-term business strategy and future developments, influence business operations, and core technical talents
[3] New shares will be issued to employees at no cost, with a total issuance amount of NTD 150 million
[4] For the complete content of ASE Technology Holdings Climate and Environment Report, please refer to our official website
[5] Task Force on Climate-Related Financial Disclosures, TCFD
[6] Taskforce on Nature-related Financial Disclosures, TNFD

<table>
<tr><th>4 Strategic Approaches</th><th>Principal Methodology</th></tr>
<tr><td>1
Low-carbon strategies</td><td colspan="3">
• Low-Carbon Products: Continuous expansion of our product carbon footprint inventory and carbon reduction. Collaboration with the value chain to offer viable low-carbon solutions for the global market.
• Renewable Energy: Creation of a diverse low-carbon emission energy framework.
• Low-Carbon Transportation: Use of low-carbon vehicles to reduce our carbon footprint.
• Supply Chain Engagement: Close collaboration with suppliers to improve their carbon inventory capabilities and to implement carbon reduction programs.
• Investment in Carbon Credits: Investment in carbon sink and capture technologies to lower environmental and social costs.
</td></tr>
<tr><td>2
Comprehensive management framework</td><td colspan="3">ASEH's Enterprise Risk Management (ERM) takes guidance from the TCFD framework to integrate the management of climate change and environmental risks and opportunities. Our comprehensive management framework enables us to undertake annual risk tracking that include scenario analysis and simulation to ascertain possible risks, and control such risks within acceptable ranges, maximizing and protecting the company's interests.</td></tr>
<tr><td>3
Socially responsible actions</td><td colspan="3">


For risks that have significant impacts to the company's strategy and financial position, the company's top management is responsible for evaluating those risks and identifying opportunities, and providing appropriate response plans and financial strategies.

Appropriate data estimation methods were selected according to parameters defined through scenario analysis, and used to calculate the actual scale of risks, opportunities and financial impacts. This will further identify the key factors influencing the possible impacts.

Employing a climate change scenario analysis methodology to determine the probability of operational and financial impacts by simulating the changes in various parameters from future timelines and different geographic locations.

Identifying potential climate risks and opportunities based on international trends and industry characteristics. Incorporating the perspectives of internal and external stakeholders to identify key risks and opportunities that could affect the company's operations and finances.

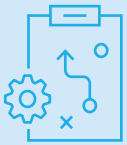
Analyzing the TCFD framework and recommendations to develop corresponding short, medium, and long-term strategies.
</td></tr>
<tr><td>4
Performance-oriented results</td><td>
Adaptation:
✓ Maintaining 100% oversight of the risk analysis and adaptation planning of facilities worldwide.
✓ Deploying a Business Continuity Management (BCM) plan to strengthen the analysis of potential risks and emergency response mechanisms.
✓ Building intelligent energy management systems to mitigate losses from supply disruption.
✓ Conducting risk assessments, green procurement and material recycling through sustainable supply chain engagement.
</td><td>
Mitigation:
✓ Building green factories and adopting renewable energy.
✓ Committing to Science Based Targets and net-zero emission targets.
✓ Increasing energy efficiency, promoting circular economy and expanding water reuse.
✓ Coordinating the support and promotion of supplier carbon inventory management (ISO14064 and ISO14067).
</td><td>
Strategic and Financial Planning:
✓ Evaluating the financial impacts of climate risks and opportunities, publishing Climate and Environmental Reports, and participating in S&P CSA and CDP surveys.
✓ Committing to Net Zero targets through low-carbon products, renewable energy, low-carbon transportation, supply chain engagements and carbon credits.
✓ Launching two green bonds and sustainability-linked loans with proceeds used on green projects.
✓ Developing a long-term value chain partnership blueprint.
</td></tr>
</table>

Task Force on Climate-related Financial Disclosures (TCFD) Framework

Governance

a. The Board of Directors at ASEH is the governing body for climate-related issues; approving risk policies, supervising related risks and making high level decisions. At the operational level, the Risk Management Committee (RMC) and Corporate Sustainability Committee (CSC) manage climate-related risks and opportunities. The committees report the status to the Board on a quarterly basis, allowing board members to understand the broad impact of climate change on the business operations and to decide on response strategies.

b. To effectively address climate risks and opportunities, the CSC and RMC have appointed ASEH's CAO to serve as CSO and CRO. In addition to reviewing and calibrating the Company's internal sustainability strategies and policies on a regular basis, his role is to continuously monitor changes in the external environment and report to the CSC, the RMC, and the Board of Directors progress and goal achievements of climate risks and opportunities, providing them a consolidated overview of ASEH and the subsidiary companies' overall ESG performance.



Strategy

a. According to our internal goal management timeline, short-term is defined as less than three years; mid-term, three to five years; and long-term, more than five years. Short-term or immediate risks arise from energy efficiency, raw material costs, climate and product-related regulations and extreme weather events, including extreme temperature changes, tropical cyclones, droughts etc. Mid-term risks include voluntary agreements, GHG emission costs, low-carbon technology transitions, changes in customer preferences, and low-carbon and green facilities. Lastly, carbon taxes, low-carbon energy or market demands, and incremental changes in climate parameters, including average temperature or rainfall changes, high ecosystem vulnerability, and land use, etc are classified as long-term risks.

b. We conduct climate risk simulation studies using the IPCC AR6 transformation and physical scenarios. In terms of physical risks, we take into consideration the impacts of extreme weather on our operations at our various global locations. We strive to lessen the impact of risks and increase disaster resilience through a variety of means, from risk identification to response strategies and implementation.

c. Impacts on operations include products, services, supply chain, customers, research and development, and adaptation and mitigation measures. Impacts on strategy include using limited resources and searching for strategic sustainability partners to create optimum semiconductor industry value. Financial impacts include revenues, management costs, capital acquisitions, and assets and liabilities.

Risk Management

a. We adopt a top-down and bottom-up enterprise risk management approach. We conduct annual high-level management team risk identification meetings where the senior management teams are tasked with identifying key risks. These risks are then managed from the bottom up through the respective enterprise risk management (ERM) process at ASEH and its subsidiary companies .

b. The process entails each department taking stock of every risk scenario, and assessing the scope, type, intensity, timing, and likelihood of impacts, identifying significant risks and opportunities that may impact business, and formulating risk mitigation plans, management practices, and financial impact analyses. Quarterly reports are submitted to the Corporate Sustainability Committee, Risk Management Committee, and the Board of Directors, for appropriate decision making. Please refer to Chapter 3.4: Risk Management of this report.

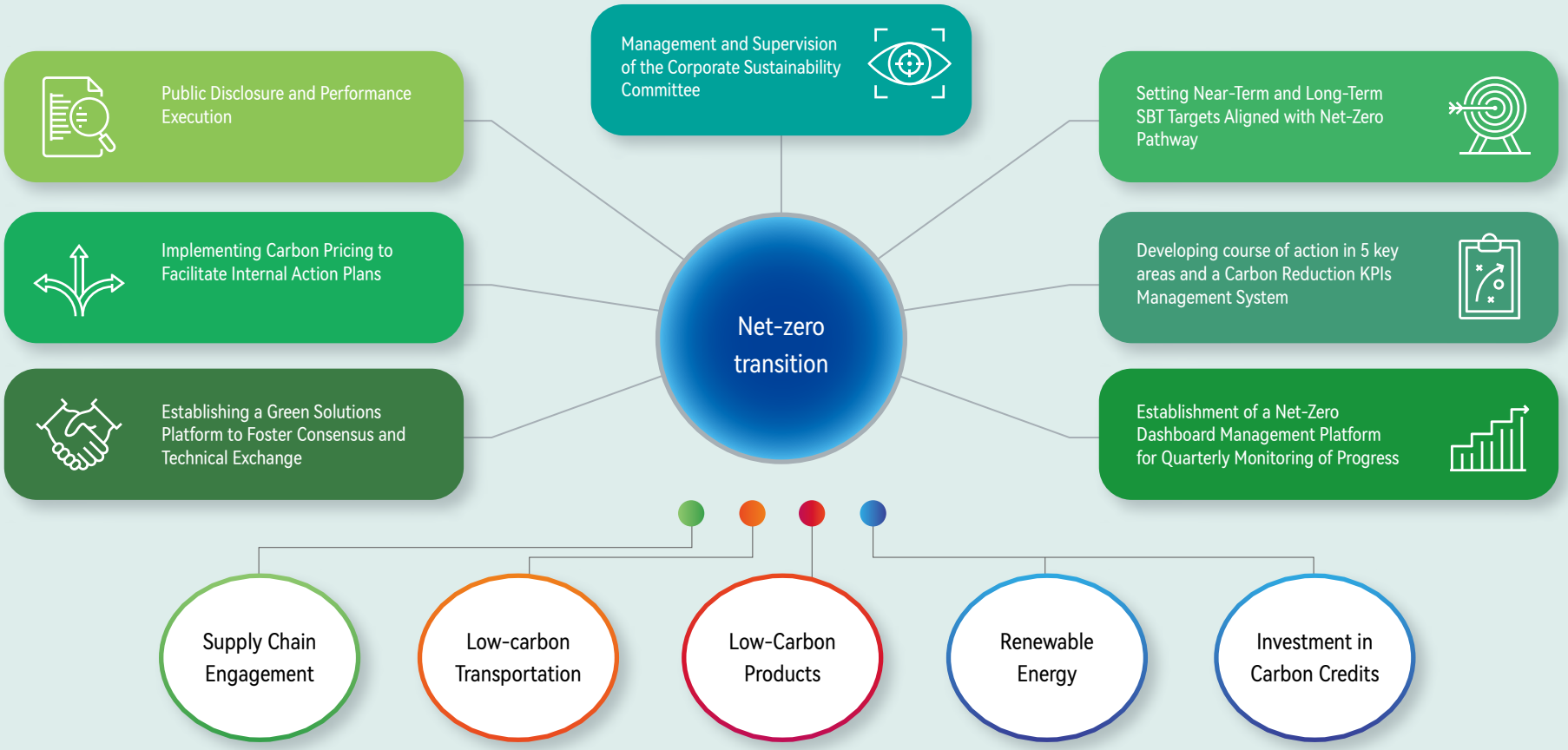
Metrics and Targets

a. Calculating greenhouse gas emissions, energy sources used, and waste produced per unit of revenue generated to help the company assess risks and impacts. Implementing carbon pricing to facilitate internal action plan.

b. We have set five key areas namely to achieve Net Zero: Low-Carbon Products, Renewable Energy, Low-Carbon Transportation, Supply Chain Engagement and Carbon Credits, and have developed short, medium, and long-term management indicators

c. We have set reduction targets for greenhouse gases (both absolute reduction and emissions intensity per unit of revenue), energy resource usage (proportion of renewable energy use, water intake intensity), and waste, while also developing more efficient low-carbon products (please see this chapter for greenhouse gas emissions and management, water withdrawal and as well as section Chapter 4.2: Sustainable Manufacturing of this report.

To achieve our Science Based targets, we have proactively expanded the coverage of the product life cycle inventory with a primary focus on low-carbon products to identify carbon reduction hotspots while facilitating the use of renewable energy at the front-end of manufacturing, and requiring suppliers to provide low-carbon materials and energy efficient equipment. We have also taken the initiative to expand collaboration with the value chain to promote low carbon transport modes through technology sharing, cross-industry cooperation, and subsidies for sustainability projects. We also monitor the progress of our subsidiaries in achieving the reduction goals on a quarterly basis through an online management platform, and quarterly technical exchange meetings. Wherever necessary, we make meaningful adjustments to our phased targets on a rolling basis, and actively push beyond the status quo to achieve our reduction target plans together with our subsidiaries and the value chain.

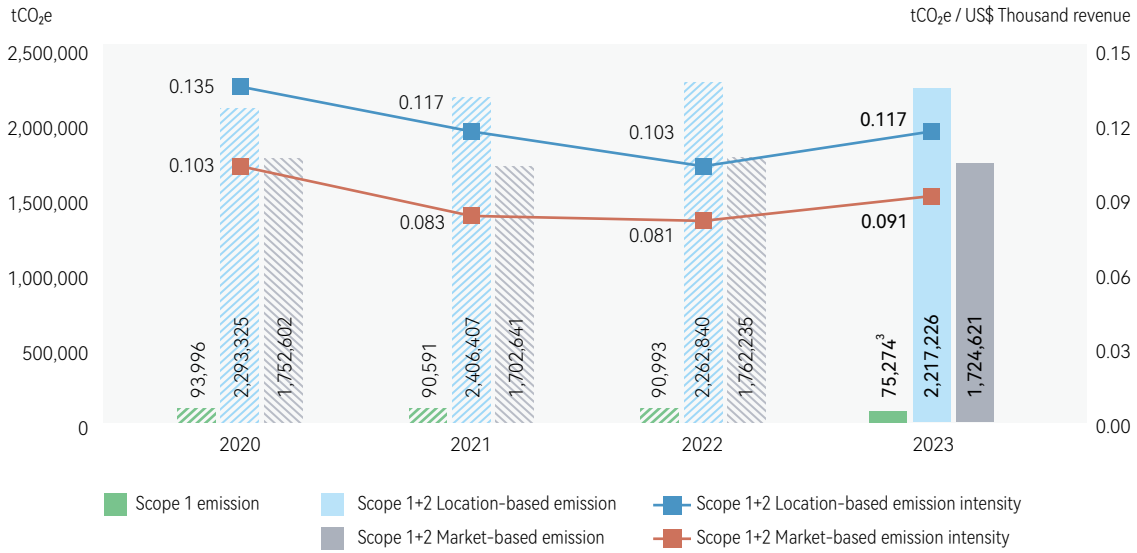


Greenhouse Gas Emissions Management

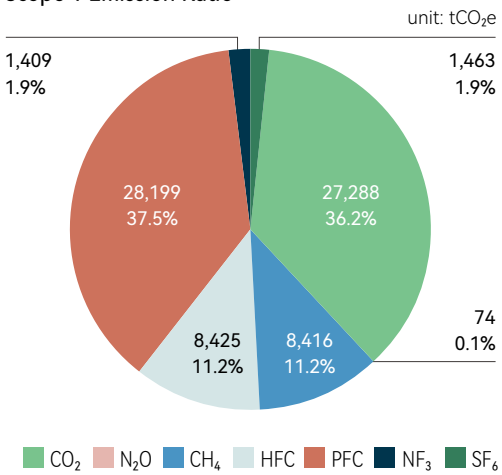
ASEH has achieved 100% control over greenhouse gas emissions in all of its global sites, following ISO 14064-1 standards. In 2023, the Scope 1 and Scope 2 emissions[1], calculated based on market-based approaches, amounted to approximately 1.72 million[2] tCO_2e , with a 45% reduction in greenhouse gas intensity per unit of revenue compared to the baseline year 2015. Since the main source of emissions in the industry is electricity usage, continuous efforts have been made to improve energy efficiency. In 2023, 16 sites obtained the ISO 50001 certification, covering 64% of the total sites. Additionally, a phased approach has been adopted to procure renewable energy or certificates, gradually increasing the proportion of renewable energy usage based on market maturity in various operating locations worldwide, to attain the reduction targets in 2030 and progressively Net-zero. In 2023, 84% of the global facilities of ASEH have used renewable energy or certificates, 12 of which achieve RE100. The major emission category in Scope 3, accounting for 76% of the total emissions, is procurement of goods and services. In response to this, we have taken proactive measures to collaborate across the value chain and initiate greenhouse gas and product carbon footprint assessments for suppliers. We provide guidance and support in assessing suppliers' greenhouse gas emissions and product carbon footprints. We also actively engage in various aspects of emissions reduction through technical sharing, cross-industry cooperation, and incentive programs. In recent years, we have also invested in subsidiary companies to assist in greenhouse gas assessments and share emission reduction technologies. Our goal is to enhance the industry's ability to assess emissions across the supply chain, analyze carbon reduction hotspots, and foster collaborations in implementing carbon reduction actions by sharing carbon reduction technologies.

GHG emission		Emission (tCO_2e)	Ratio
Scope 1	Land use, land use change and forestry (LULUCF)	-16	0.65%
	Stationary Combustion	24,255	
	Mobile Combustion	2,317	
	Fugitive Emissions	16,423	
	Process Emissions	32,279	
Scope 2 (Market-based)	Electricity	1,636,932	14.20%
	Heating/Cooling/Steam/ Compressed air	12,415	
Scope 3		9,891,845	85.15%

Greenhouse Gas Emissions and Intensities



Scope 1 Emission Ratio



[1] The electricity carbon emission factor is calculated based on that of local sites
[2] Greenhouse gas inventory reveals emission scope with operational control and the Global Warming Potential derived from the IPCC Sixth Assessment Report
[3] Not include the Land-use Remove
[4] In 2023, the GHGs Scope 1+2(market) emissions is 1,724,621 tCO_2e. Additionally, the GHG reservoir by reforestation was down 16 tCO_2e, the net emissions is 1,724,605 tCO_2e

Scope 3 Emission Source	Emission(tCO_2e)	Emission factor	Reduction Courses of Action
Purchased goods and services	7,531,806	SimaPro 9.5.0.0 / EF Database 3.1	• Prioritize the purchase of low-carbon materials/ recycled materials • Encourage the use of renewable energy
Capital goods	772,306	SimaPro 9.5.0.0 / EXIOBASE	• Prioritize the purchase of low-carbon equipment and build low carbon facilities
Fuel- and energy-related activities	413,968	SimaPro 9.5.0.0 / EXIOBASE/USLCI	• Progressively increase the use of renewable energies
Upstream transportation and distribution	115,336	SimaPro 9.5.0.0 / USLCI / Agri-footprint	• Replace current plan with low-carbon transportation solutions • Minimize the use of product packaging materials • Establish a platform that integrates upstream and downstream transportation equipment and transportation distances
Downstream transportation and distribution	48,111	SimaPro 9.5.0.0 / USLCI / Agri-footprint	
Waste generated in operations	11,086	SimaPro 9.5.0.0 /USLCI /Carbon Footprint Information Platform	• Promote circular economy and adopt an end-of-life recyclable component design
Business travel	2,655	GOV.UK-Conversion factors: full set	• Rationalize business travels • Replace physical meetings with video conferencing
Employee commuting	33,535	SimaPro 9.5.0.0 / USLCI	• Offer carbon coins to encourage low-carbon commuting • Promote public transportation
Upstream leased assets	3,335	SimaPro 9.5.0.0 / EXIOBASE / EU & DK Input Output Database	• Improve energy efficiency
Downstream leased assets	27,541	Carbon Footprint Information Platform	
Investments	932,166	EXIOBASE / EU & DK Input Output Database	• Providing Guidance on Greenhouse Gas Inventory and Promoting Emission Reduction
Total	9,891,845		

Energy Saving and Carbon Reduction Projects

ASEH adopts 3 key approaches in its carbon reduction management; carbon reduction in manufacturing processes, carbon reduction in buildings and low-carbon energy development projects. In 2023, we invested a total of approximately US$34 million on 574 projects, resulting in an emission reduction of 603,327 tCO_2e. To reduce our Scope 1 emissions, process optimization and the electrification of transportation are our primary methods. For Scope 2, we focused on improving process efficiency as well as increasing the energy efficiency of equipment and systems through parameter adjustments and regular maintenance. We are also focused on developing innovative smart energy management systems that optimizes energy efficiency, establishing channels for inhouse technology sharing and organizing various energy saving competitions. At the same time, we continue to integrate low carbon building concepts across all our operations to further reduce the carbon footprint of our business activities.

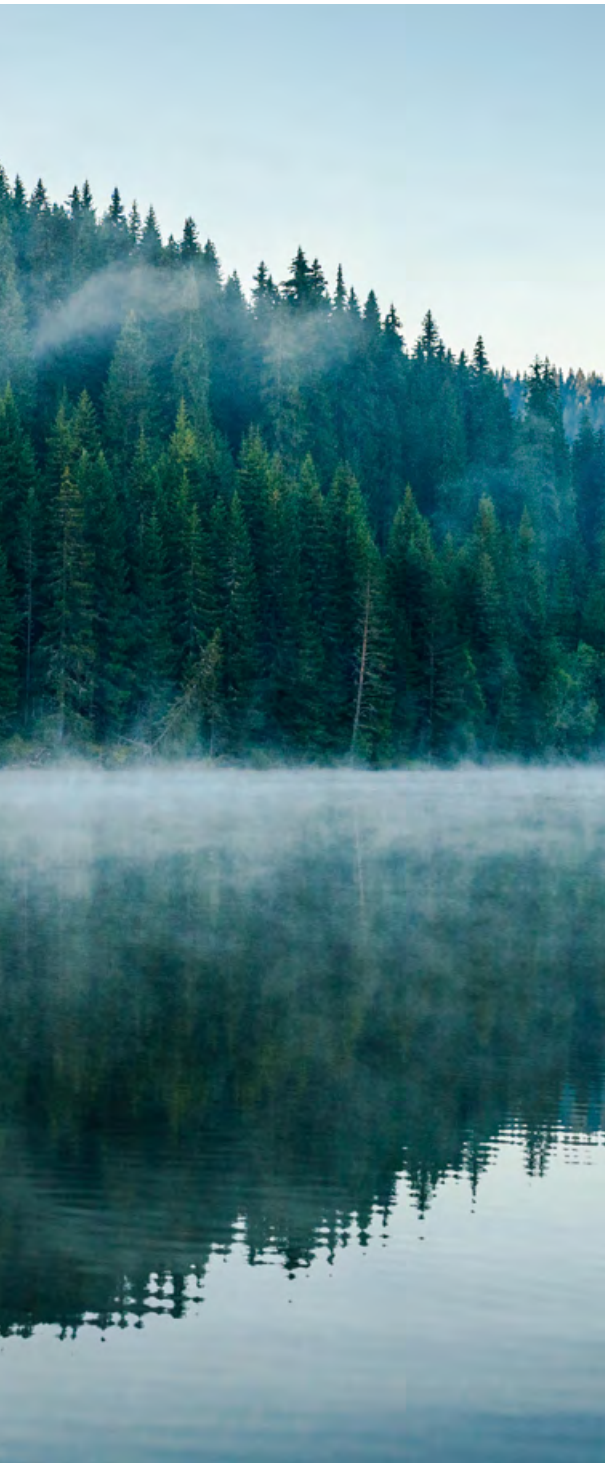
Category	Energy Saving (MWh)	Energy Saving (GJ)	Carbon Reduction (tCO_2e)	Reduction Scope
Carbon reduction in manufacturing processes[1]	145,876	525,153	81,280	Scope 1+2
Carbon reduction in buildings[2]	32,356	116,482	16,418	Scope 2
Low-carbon energy[3]			505,629	Scope 2

[1] Carbon reduction in manufacturing processes includes enhanced performance and decarbonization in the manufacturing process, pneumatic system, pure/waste water systems, equipment replacement, motors and drives, automation and smart control system, waste heat and cold recovery
[2] Carbon reduction in buildings includes saving energy in lighting and air conditioning systems
[3] Low-carbon energy includes self-generated renewable energy, purchasing renewable energy and purchasing renewable energy certificates

Carbon Reduction Project

Scope 1 Carbon reduction project			Investment	Performance
Category	Number	Content	Total investment fees (US$)	Carbon Reduction (tCO_2e/year)
Decarbonization in the manufacturing process	2	• Installation of point-of-use abatement systems for processes using Fluorinated GHG • Substituting PFCs with low global warming potential gases • Substituting CF_4 with O_2 in the plasma etching process	192,471	6,925

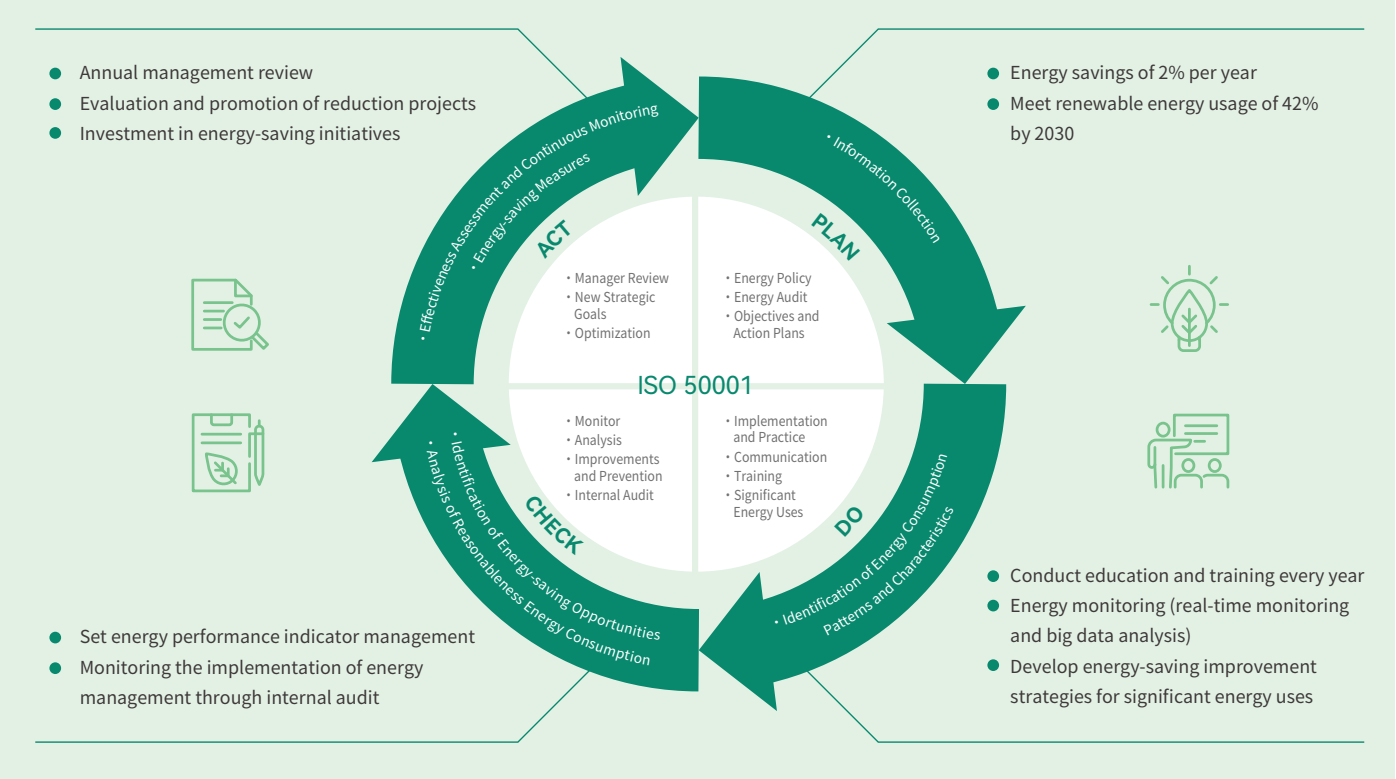
Scope 2 Carbon reduction project			Investment	Performance	
Category	Number	Content	Total investment fees (US$)	Energy Saving (MWh/year)	Carbon Reduction (tCO_2e/year)
Lighting System	27	• Implementing Smart Controls • Using High-efficiency LED	220,056	1,744	863
Air Conditioning System	114	• Parameters Adjustment • Replacing Low-efficiency equipment	6,581,123	30,603	15,550
Pneumatic System	37	• Parameters Adjustment • Replacing Low-efficiency equipment	1,042,645	18,759	9,222
Enhanced Performance	259	• Optimizing Parameters • Refinement of Operational Processes • Optimization of Machine Idle Time	633,497	91,030	46,672
Pure/waste Water Systems	21	• Optimizing Parameters • Machine and Equipment Maintenance • Water Recycling	90,320	5,416	2,823
Equipment Replacement	60	• Process Machine Equipment Replacement • Replacement of Old Parts and Materials	17,422,200	14,055	7,091
Motors and Drives	26	• Replacement of Low-efficiency Motors • Installation of Variable Frequency Drives	673,743	3,393	1,680
Automation and Smart Control System	13	• Installation of Automatic Controllers • Implementation of Smart Management in Manufacturing Process	241,789	4,659	2,306
Waste Heat and Cold Recovery	14	• Heat Recovery • Recycling of Waste Cold	784,882	8,573	4,566
Low-carbon Energy	1	• Self-generated Solar Power • Purchasing Renewable Energy / RECs	6,257,328	-	505,629



Energy Resource Management[1]

Energy Management

To effectively manage internal energy usage and increase energy efficiency, ASEH is progressively implementing the ISO 50001 Energy Management System to meet its planned goal of achieving 100% certification by 2025. The PDCA (Plan-Do-Check-Act) management model is used to control energy costs and reduce unnecessary energy consumption. We have taken a proactive approach to inculcating an energy saving culture amongst our employees by conducting essential education annually, and holding events or competitions to sow the seeds of sustainable development to support our business growth.

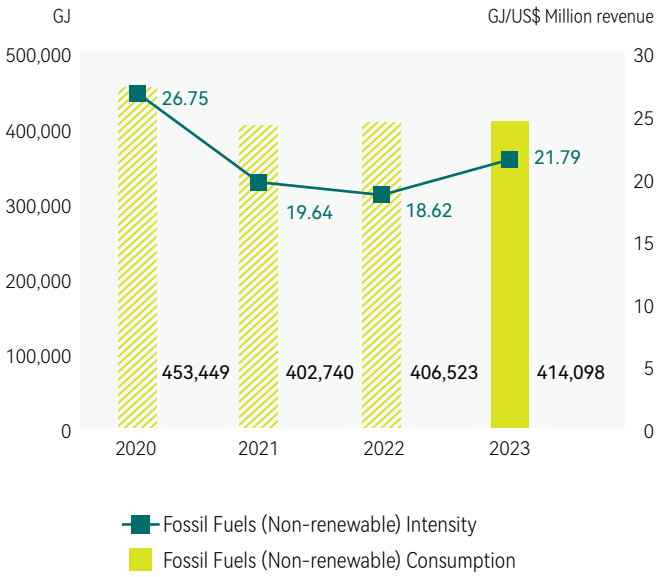


[1] Total energy consumption within the organization = (non-renewable fuel/electricity consumption) + (renewable fuel (electricity) consumption)+(purchased electricity, heating, cooling and steam)

Fossil Fuels (Non-renewable)

Petroleum gas, natural liquefied gas(LNG), gasoline, diesel, and heavy oil are the main fossil fuels used[1] at ASEH, accounting for a total consumption of 414,098 GJ[2] in 2023. Of which, LNG used in stackers and emergency power generators accounted for the highest proportion at 81.09%, followed by heavy oil for generating steam. In recent years, our dependency on fossil fuels have been reduced through the gradual introduction of transportation modes and the use of substitute fuels and clean energies.

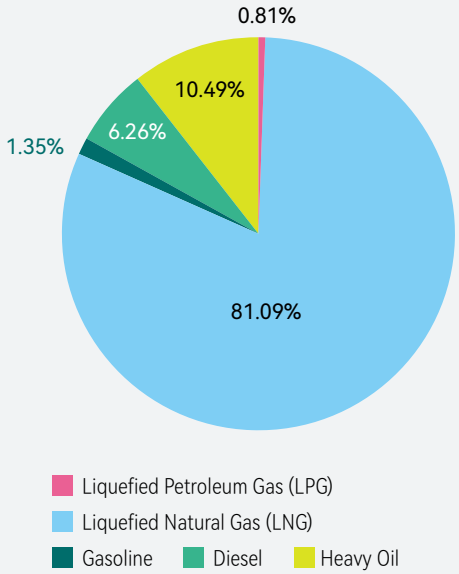
Fossil Fuels (Non-renewable) Consumption and Intensity



[1] Fossil Fuels (Non-renewable fuels) are used in: (a) Facilities: Emergency power generators, boilers, (b) Transport: Stackers, company vehicles, (c) Air pollution preventive equipment

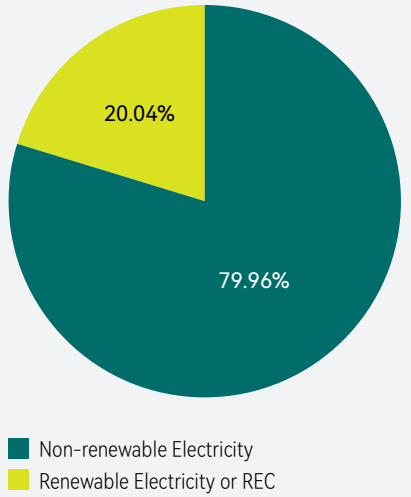
[2] The calorific value of fuel refers to the unit calorific value table of energy products

Fossil Fuels 115,027 MWh



Fossil Fuels (Non-renewable fuels)	GJ	MWh
Liquefied Petroleum Gas (LPG)	3,340	928
Liquefied Natural Gas (LNG)	335,803	93,279
Gasoline	5,570	1,547
Diesel	25,925	7,201
Heavy Oil	43,460	12,072
Total	**414,098**	**115,027**

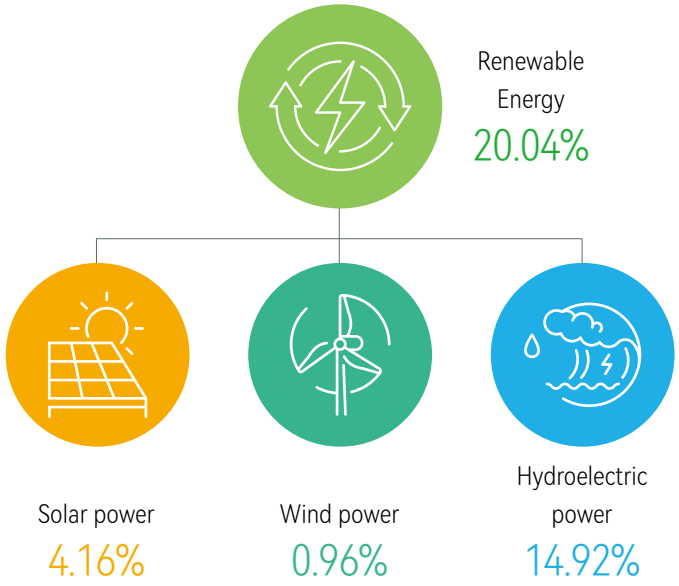
Electricity 4,211,006 MWh



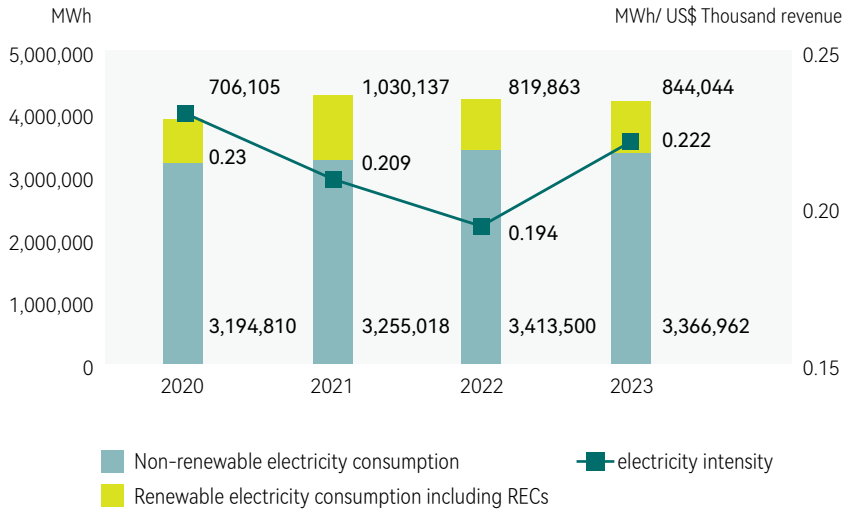
Electricity	MWh
Non-renewable Electricity	3,366,962
Renewable Electricity or REC	844,044
Total	**4,211,006**

Electricity and Renewable Energy Consumption

ASEH is increasing the use of renewable energy and developing a diversified power supply portfolio to strengthen its climate resilience. In 2021, we established the "Renewable Energy Platform" to consolidate the energy procurement of all our three subsidiaries. In addition, we managed to work with the value chain on the collective procurement of renewable energy, which not only increased the proportion of renewable energy used by our partners but also indirectly reduced greenhouse gas emissions overall. In 2023, our total electricity consumption to talled 4,211,006 MWh, while electricity consumption decrease by 0.53% compared with 2022. The electricity intensity per unit of revenue recorded a increase of approximately 14.27%. In line with ASEH's commitment to the SBTi net-zero by 2050, we are progressively increasing the use of renewable energy through solar power (installed at our facilities), external procurement of renewable energy, and acquisition of RECs. 84% of our global facilities used electricity from renewable sources including RECs. Our renewable electricity usage totaled 844,044 MWh and accounted for 20.04% of total energy consumption. 12 of our global facilities[1] obtained 100% of their electricity from renewable energy sources including RECs.



Electricity Consumption and Intensity



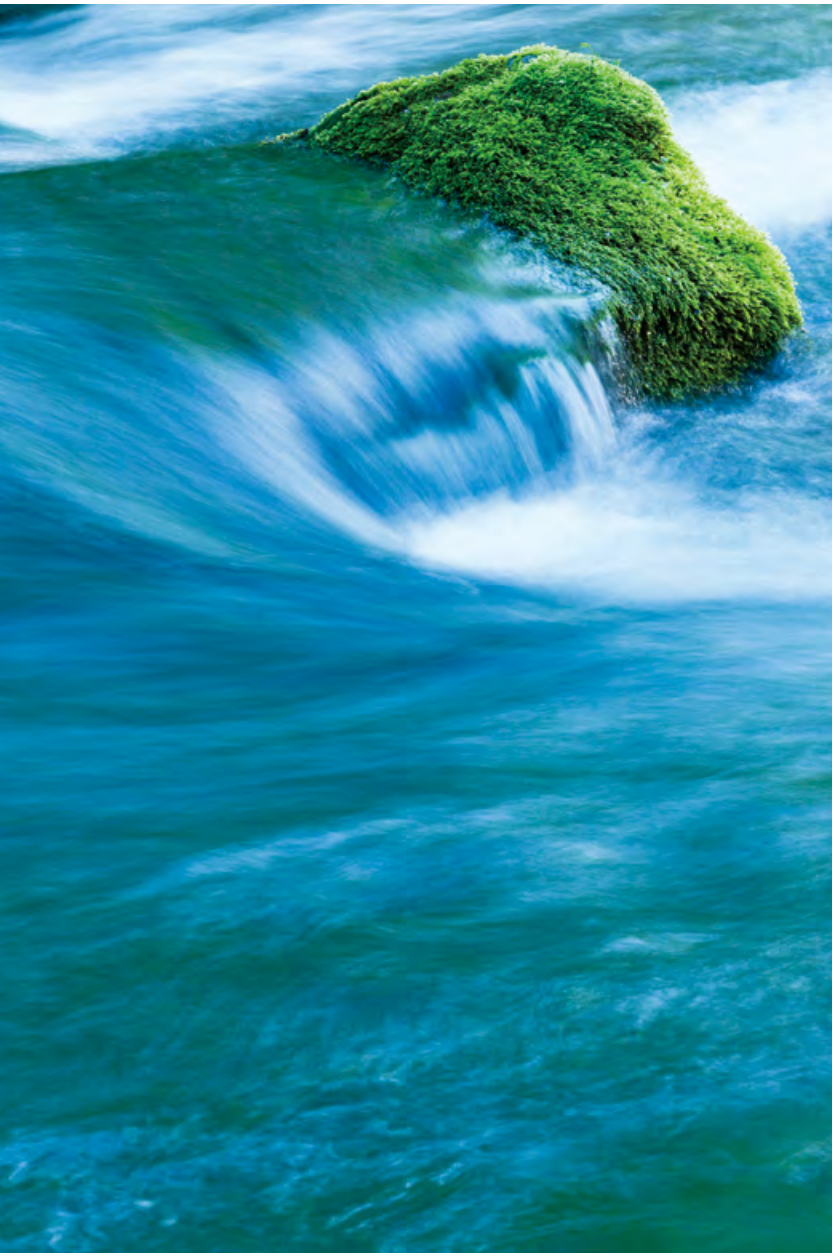
Renewable Energy (MWh)	Self-generated	Purchasing	RECs
Solar power	4,389	21,589	149,458
Wind Power	-	13,913	26,433
Hydroelectric Power	-	-	628,262
Total	**4,389**	**35,502**	**804,153**

[1] 100% of electricity from renewable energy sources including RECs: (1)ASE:SH(M), WX, ISESH, JP, M (2)USI: ZJ, KS, JQ, HZ, MX, HPH (3) SPIL: SZ

Smart Energy Monitoring and Management

To better manage our energy efficiency, we have established a minimum threshold of a 2% electricity savings relative to the annual power demand at our manufacturing facilities. We are also closely monitoring the energy intensity from non-renewable energy sources and high-energy consuming equipment at our facilities, with the goal of reducing energy usage. In recent years, we are aggressively expanding the adoption of intelligent energy management systems with ASE's Kaohsiung Facility leading the charge. Over the period of 2023, we actively analyzed the factory's real-time electricity usage patterns to determine optimal electricity allocation during peak and semi-peak hours, enhancing energy efficiency while lowering electricity bills. For energy-consuming air conditioning systems, AI tools were used to forecast air conditioning consumption for each upcoming 12-hour period. The data is then used to calculate and control the operation of chillers and fan filter units (FFU) in each area to maximize energy savings.

- **Real-time energy management platform:** Analyzing real-time power consumption to optimize power loading efficiently across different timings, thus achieving peak shaving and valley filling benefits.
- **AI intelligent control for the air conditioning system:** Using real-time computing, analysis, and energy-saving modules to determine the best control logic and timing for energy usage, accelerating energy savings and automation.
- **Energy-consuming process equipment control:** Installing independent power meters to detect and automatically turn on low-power mode in real time.



5.2 Water Resource

Water Resource Management

Managing our water resources is a top priority at ASEH, and we aim to continuously improve and optimize the use of water resources efficiently. From establishing management objectives to assessing major areas of water usage, the adoption of ISO 46001 Water Efficiency Management Systems enables us to identify risks and opportunities, and develop water-saving measures, risk mitigation strategies and various action plans. ASE Kaohsiung became the first semiconductor assembling and testing facility in Taiwan to obtain the ISO 46001 certification in 2021, followed by ASE Chungli in 2022 and SPIL Zhong Ke in 2023. The various sites have also developed action plans for certification in the future.

- Eatablish water resource management objectives.
- Collect water usage/reuse data from each facility.
- Identify water risks and opportunities.
- Develop water conservation projects for facilities and improvement/adaptation plans for high-risk facilities

- Implement water conservation projects and improvement/adaptation plans in each facility.

- Manage and review the effectiveness of water resource management in each facility, continuously improving water resource efficiency.

- Monitor the effectiveness of water resource management in each facility to ensure alignment with management objectives.

Risk Management

To assess water resource risks across our global facilities accurately, ASEH continues to use WRI Aqueduct's "Drought Indicators" and "Water Stress Indicators" combined with the "Drought Frequency Indicators" and "Impact Level Indicators" from NASA's climate change information, and the "Monthly Water Supply and Demand Correlation Indicators" from each facility to estimate the frequency and impact level of droughts in the regions where ASEH facilities are located, based on the daily rainfall under various climate change scenarios. In addition, we created the monthly correlation between water supply and demand by using WRI's monthly water stress indicator and the monthly amount of water withdrawn at each facility. We use these customized climate change information to synthesize the "Regional Water Shortage Indicators" to reflect both hazard and exposure. During scenario selection, we use assessments on favorable and unfavorable future water risk scenarios. We use three climate scenarios, namely OPT, BAU, and PES to simulate six combinations of Regional Water Shortage Indicators for two target time periods (i.e., 2015 to 2045 and 2035 to 2065).

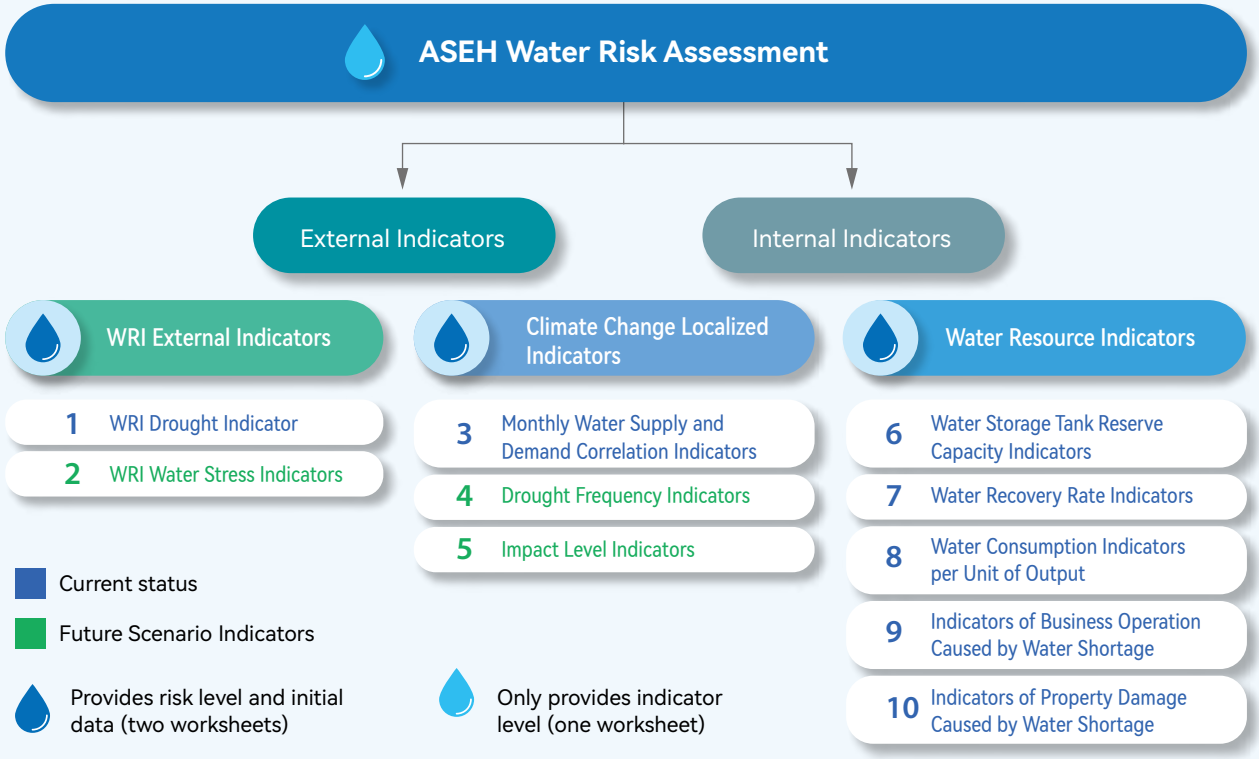
Climate scenario	Time Scale	WRI	NASA
OPT[1]	2015-2045, 2035-2065	SSP1 RCP2.6	SSP1 RCP2.6
BAU[2]	2015-2045, 2035-2065	SSP3 RCP7.0	SSP3 RCP7.0
PES[3]	2015-2045, 2035-2065	SSP5 RCP8.5	SSP5 RCP8.5

1. Optimistic Scenario (OPT): The increase in global average surface temperature in 2100 will be limited to 1.3℃ to 2.4℃ compared with pre-industrial times (1850-1900). SSP1 is characterized by sustainable socioeconomic growth: strict environmental regulations and effective institutions, rapid technological change and improved water efficiency, and low population growth.
2. Business as usual (BAU): Representing a middle-of-the-road future, temperatures will rise by 2.8℃ to 4.6℃ by 2100 relative to pre-industrial levels. SSP3 is a socioeconomic scenario characterized by regional competition and inequality, including slow economic growth, weak governance and institutions, low investment in the environment and technology, and high population growth, especially in developing countries.
3. Pessimistic Scenario (PES): Represents a future where temperatures will rise by 3.3℃ to 5.7℃ by 2100. SSP5 describes fossil fuel development: rapid economic growth and globalization driven by carbon-intensive energy, strong institutions investing heavily in education and technology but lacking global environmental concern, and a decline in population after peaking in the 21st century.

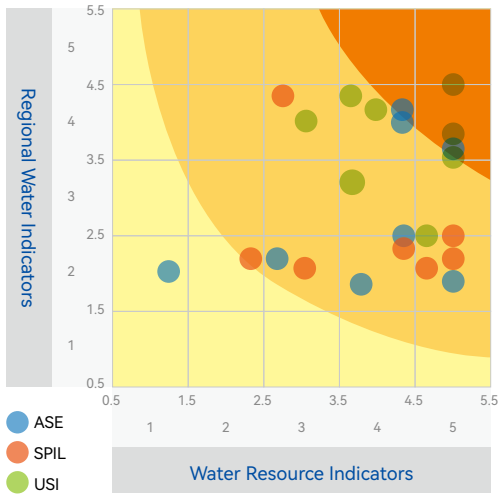
We then collect and integrate the water usage information of each facility, and incorporate the "Facility Water Resource Indicators" to reflect the level of vulnerability. On this indicator, information such as "Water Storage Tank Reserve Capacity Indicators", "Water Recovery Rate Indicators", "Water Consumption Indicators per Unit of Output", "the wastewater reclamation recycling systems" and past historical experience are considered to evaluate the water vulnerability of each facility. The study also considers the additive coefficients, including the business process and response mechanisms, as well as the actual ranking of the regional water supply capacity and the corrected results to present the specific climate risk of the facility. In addition, we have also incorporated groundwater sources in the total water risk assessment to address the uncertainty of groundwater availability under the climate change scenario, and the potential of tighter regulatory control of groundwater access in the future.

Lastly, we integrated the Regional Water Shortage Indicators and the Facility Water Resource Indicators to reflect IPCC's hazard × vulnerability × exposure framework. The drought risk of each facility is presented as a two-dimensional matrix, where the vertical axis represents the Regional Water Shortage Indicators, reflecting the hazard and the exposure of the facility to drought risk, while the horizontal axis represents the Facility Water Resource Indicators, reflecting the vulnerability of the facility to drought risk. The Regional Water Shortage Indicators and Facility Water Resource Indicators for all ASEH facilities are divided into five levels, where the product of the regional water scarcity indicator and the facility water consumption indicator is greater than or equal to 18 for high-risk areas, less than 18 and greater than 5 for medium-risk areas, and less than or equal to 5 for low-risk areas.

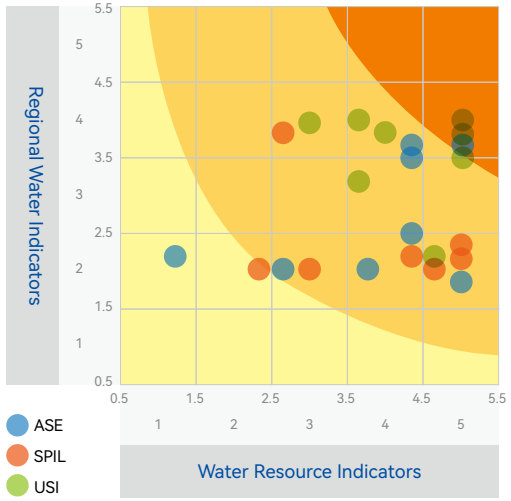
Based on the results of the analysis using the optimistic short-term scenario (2015-2045 OPT) and the pessimistic long-term scenario (2035-2065 PES) as examples, the Regional Water Shortage Indicators for all ASEH facilities are roughly distributed between Level 2 and Level 4. Notably, some facilities experience lower water stress levels in the pessimistic scenario than in the optimistic scenario. This discrepancy arises because our analysis only focuses on the drought indicator. The pessimistic scenario reflects severe climate changes on the whole. For instance, under this scenario, dry and wet seasons will be more pronounced, but rainfall is on the rise throughout the year. Meanwhile, there are significant differences in the Facility Water Resource Indicators, which is distributed between Level 1 and Level 5. As observed from the overall results, most of ASEH facilities are located in low-to-medium-risk areas. Facilities located in high-risk areas will continue to implement various adaptation measures, such as increasing water recovery rates, establishing wastewater recycling systems, increasing reserve water capacity, or reducing reliance on groundwater sources, with a view to not only minimizing the impact of water scarcity in the future, but also bolstering resilience to wet and dry seasons across all ASEH facilities.



ASEH 2015-2045 OPT



ASEH 2035-2065 PES

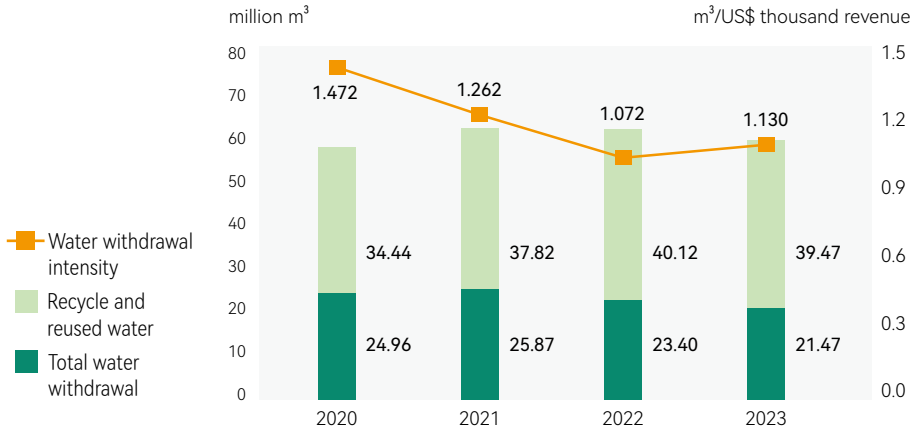


Water Withdrawal and Reuse

ASEH adopts three water use strategies: reduce, reuse, and recycle. The main source of water-use is tap water. Total water withdrawals in 2023 amounted to 21.47 million tons, while water withdrawal decreased by 8% compared to the previous year. The water use intensity per unit revenue (including rainwater) was affected by the revenue decrease to increase by 5% compared with the previous year, but reaching our goal of a 46% decrease compared to the baseline in 2015.

The wastewater reclamation recycling systems were established in ASE Kaohsiung, Chungli, Malaysia, and Singapore facilities to support wastewater treatment that meets local regulations. The wastewater reclamation recycling rate of ASE Kaohsiung and Chungli are 70%, ASE Malaysia is 50%, and ASE Singapore is 37%. The robust recycling methodology at the facility result in a 12% reduction in effluent discharge, and significantly alleviated the manufacturing sites' pressure on water consumption and wastewater discharge.

Water Resource and Water Withdrawal Intensity



Diverse Water Resources

Total water withdrawals 21,467,999 m³/year

- Municipal water 77.67%
- Third-party water 2.46%
- Groundwater 19.82%
- Rainwater 0.04%

Water Management

Total water withdrawals 39,474,668 m³/year

- Domestic water usage 7%
- Manufacturing process usage[1] 68%
- Process recycling rate 78%
- Public facilities water usage[2] 21%
- Irrigation

Recycling and Processing Wastewater

Wastewater treatment system → Water recycle and reclamation plant[3] → Qualied waste water euent

36,844,784 m³/year

- Discharge to a third party without treatment 10%
- Primary treatment 13%
- Secondary treatment 58%
- Tertiary treatment 19%

Total wastewater discharge 15,386,252 m³/year

- to the surface water 95%
- to the seawater 5%

Water consumption

Total water consumption 6,081,747 m³/year

Description:
1. Manufacturing process water use includes manufacturing water use cycle, cleaning/grinding water, electroplating water recycling, and other reuse.
2. Public water use includes washing tower discharge, cooling tower discharge, purified/wastewater systems recycling and reuse.
3. Water reclamation includes recycling and renewal of processed water that meets guidelines, supplying the manufacturing water usage cycle.

In 2023, our successful launch of 16 conservation projects involved 42 million USD in capital expenditures and operating expenses, which saved a remarkable 1.28 million tons per year. To improve employees' awareness, knowledge, and skills, we generally provide water resource efficiency-related training for employees, a total of training lessons for 3,743 hours, 5,318 people. That will assist employees in discovering water-saving opportunities in daily operations and propose and implement improvement projects. Incentive mechanisms were implemented to encourage employees to propose feasible solutions to save water that resulted in, an increase of 2% year-on-year recycling rate to 78%. We remain committed to promoting and investing in water management capabilities taking concrete actions to advance circular economic benefits derived from sustainable water use.

Water Saving Projects			Investment	Performance
Project Type	Number	Description	Investment fees (US$)	Performance (tons/year)
Process recycling rate	7	• Add a recycling system to process and recycle machine wastewater	1,234,907	805,797
Water recycle and reclamation plant	1	• Wastewater reclaim efficiency improvement	710,680	93
Wastewater recycling	6	• Strip grind wastewater reuse • New construction project for organic wastewater recycling	40,140,036	472,421
Public facilities water usage	1	• Water spray for garden	800	965
Domestic water usage	1	• Toilet tap and flush water altered to water saver	896	1,080
Total	16		42,087,319	1,280,356

Wastewater Management

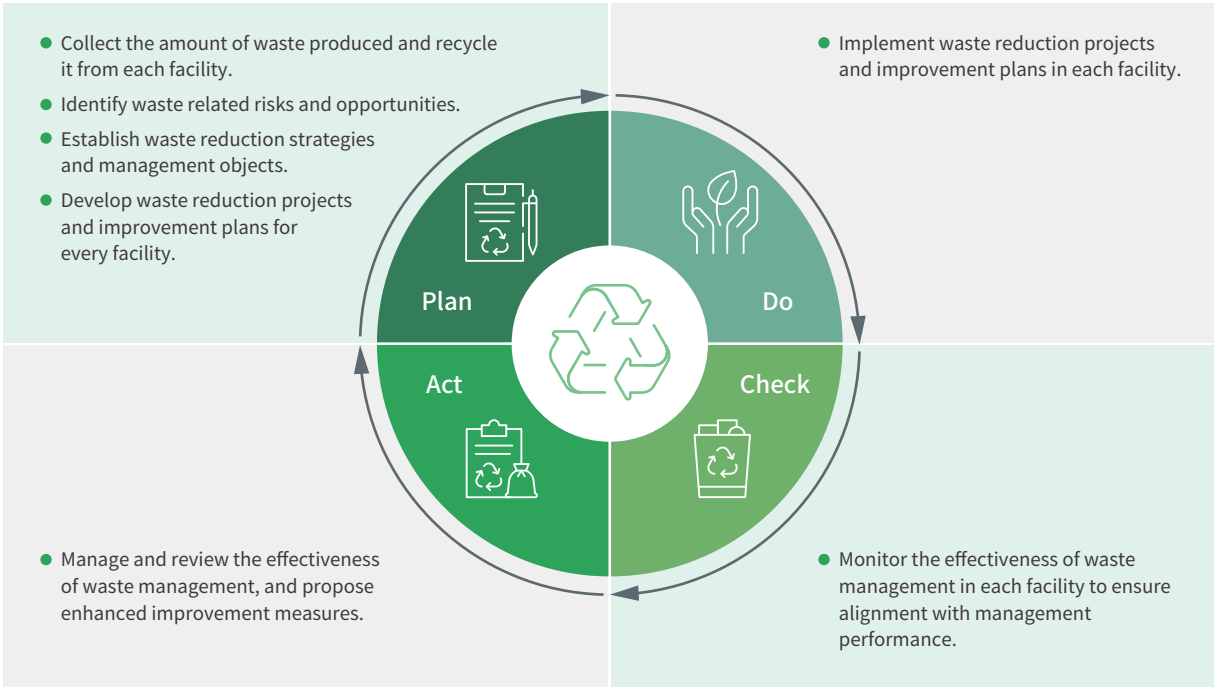
In 2023, 15,386,252 tons[1] of effluent was discharged, and our total water consumption was 6,081,747 tons. We conduct internal water quality tests, while also outsourcing offline sampling and water quality analysis to ensure strict control and ecology management of the aquatic environment. In addition, our effluent management adheres to local regulations and discharge water standards. A number of our facilities have set internal goals that are higher than regulatory requirements by consistently monitoring the effluent quality, and employing AI algorithms to optimize and increase the amount of recycled water and reduce water withdrawal. Currently, there are 15 facilities that collect and classify chemicals used in the manufacturing process, so that each type can be treated independently based on its effluent characteristics, and hence, improving the efficiency of our effluent treatment processes. In order to provide employees with clean water and proper sanitation across our operations, we have adopted the WASH (Water, Sanitation, and Hygiene) approach as well as established wastewater treatment facilities. We will continue to conduct regular health and environmental education to further enhance employees' awareness of water security.

[1] Three electronic manufacturing services facilities (USI Kunshan, Shenzhen, and Mexico) do not have on-site wastewater treatment facility, so the amount of wastewater discharge is estimated. Others' data is recorded from water meters

5.3 Waste

Waste Management

ASEH adopts source reduction measures and prioritizes the use of eco-friendly materials to minimize waste generation and reduce environmental pollution. We require all facilities to complete ISO14001 certification, and collect and track each facility's environmental-related data from the environmental management platform on a quarterly basis. Facilities that have not achieved the targets will need to propose improvement plans to reduce their waste output and increase their recycling rate. In 2023, a total of 68,657 tons of waste was generated; a positive progress towards our goal of zero landfill. At some locations, local government regulations mandate a close to zero landfill for hazardous waste. As such, there still remains approximately 2% of general waste that must be disposed of in landfills. The USI Shanghai-Shengxia and Zhangjiang Facilities have each obtained UL Solutions Environmental Claim Validation (UL ECV), Gold certification for achieving zero waste to landfill. To ensure that waste removal is environmentally friendly and conducted responsibly, we have commissioned qualified local vendors to recycle and process 100% of the generated waste within the border. We also use AI tools to monitor the operations of waste transport vehicles. Each facility conducts waste vendor audits in various forms including annual online, paper-based, and on-site audits, as well as random audits. These audits aim to ensure compliance with environmental regulations and the company's policies, and ultimately to prevent environmental pollution incidents. To improve waste resource utilization, we have adopted the circularity model with a goal of 90% recycling rate for non-hazardous waste. In 2023, the hazardous waste intensity (hazardous waste generated per revenue) decreased by 58% compared with 2015, resulting in a 91% general and hazardous waste recycling rate which is a 3% increase from the previous year. We also provided employees with education and training on environmental issues, totaling approximately 38,235 training hours for 42,361 participants. This training initiative effectively boosts employees' awareness and understanding of waste reduction, enabling the company to integrate the ethos of waste reduction into its operations and achieving its ultimate goal of zero waste to landfill.



Production/Testing

Product manufacturing

tons/year
68,657

Waste Management

Hazardous waste

tons/year: 20,692
Ratio: 30%

	tons/year	Ratio
Recycle[1]	16,096	78%
Recycle & Reuse	11,199	54%
Incineration (with energy recycle)	4,897	24%
Landfill	0	0%
Incineration (without energy recycle)	819	4%
Others	3,777	18%

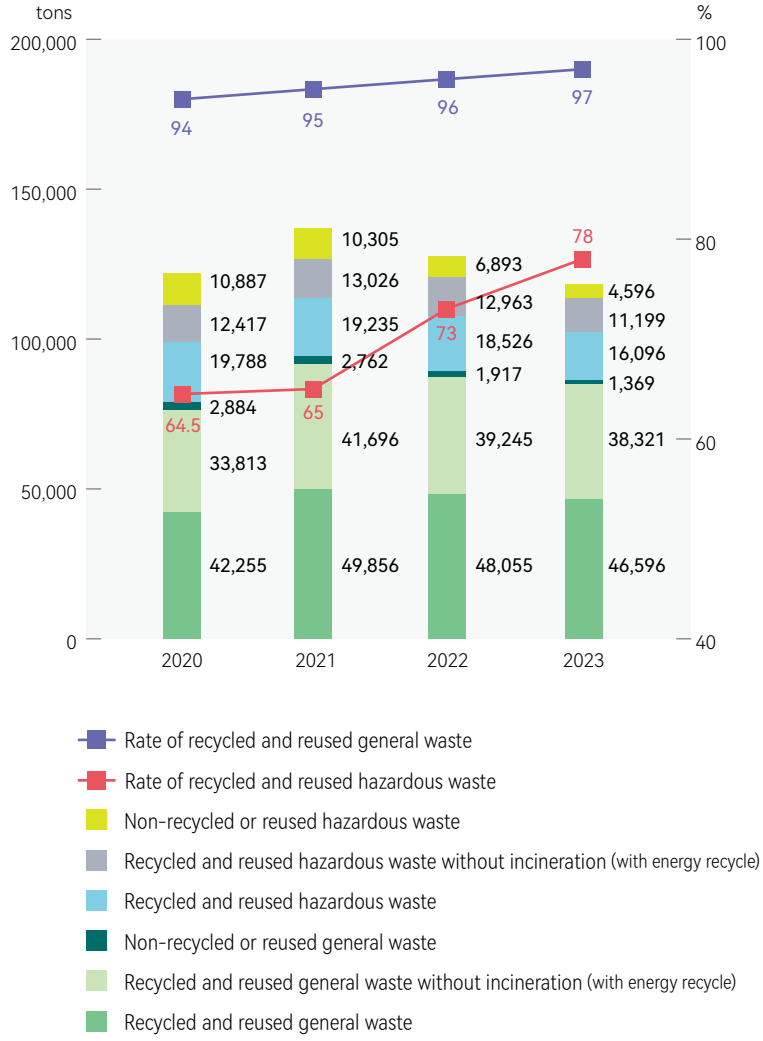
General waste

tons/year: 47,965
Ratio: 70%

	tons/year	Ratio
Recovery[2]	46,596	97%
Recycle & Reuse	37,215	78%
Compost	1,106	2%
Incineration (with energy recycle)	8,275	17%
Landfill	1,114	2%
Incineration (without energy recycle)	255	1%
Others	0	0%

Description:
1. Rrecycled hazardous waste includes incineration (with energy recycle)
2. Recycled general waste includes compost and incineration (with energy recycle)

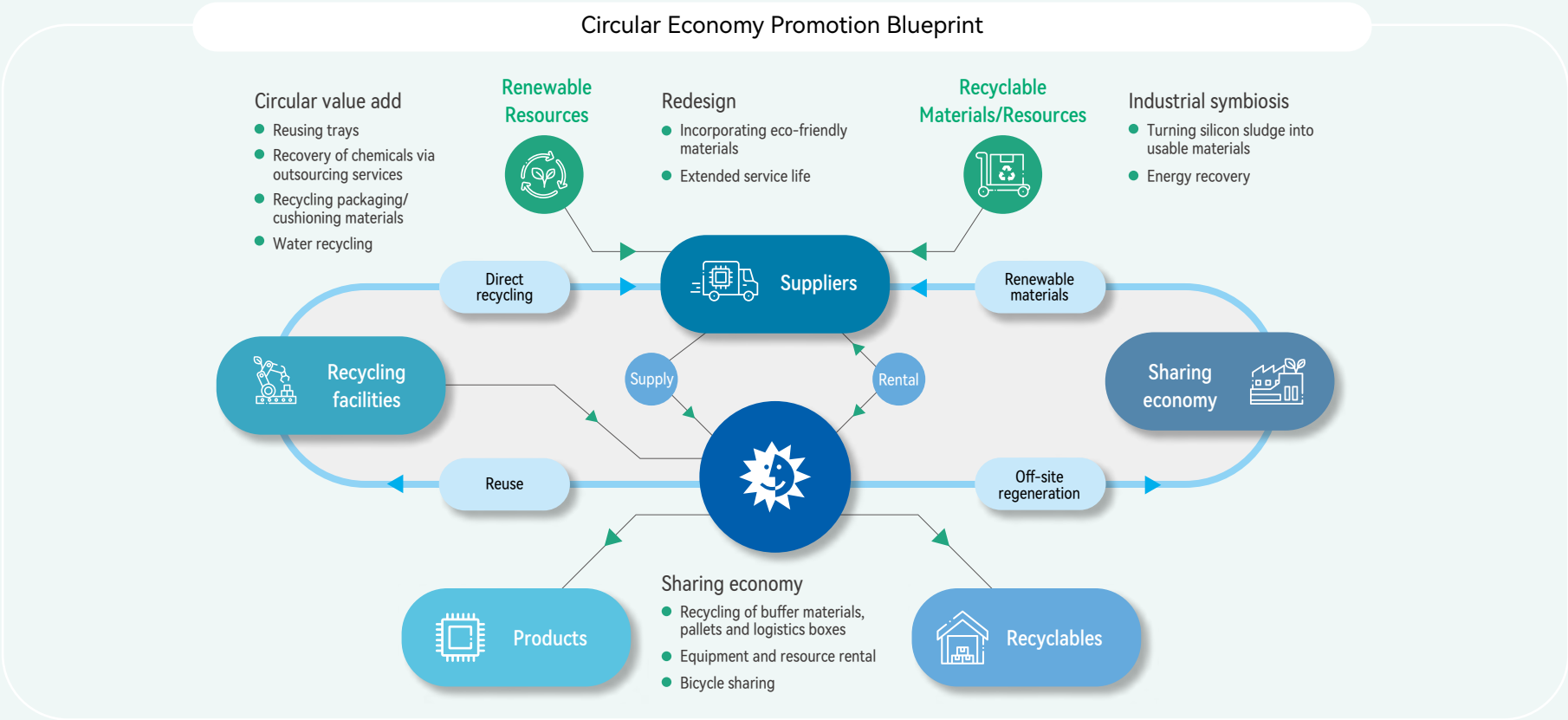
Waste Output and Recovery Rate



Description:
(1) Rate of recycled general waste reached 97% > target recycling rate (90%)
(2) Rate of recycled hazardous waste in 2023 (78%) was 73% higher than the previous year (5%)
(3) Rate of recycling of hazardous waste (excluding incineration with recycled energy) was 22%

Striving Toward a Circular Economy

The concept of the circular economy has garnered greater global attention in recent years as concerns with the continuous depletion of natural resources grow. To optimize the use of Earth's resources, the application of relevant expertise and the weighing of economic benefits are prime factors in implementing a circular economy. At ASEH, we are putting the circular economy in action by adopting five key approaches direct recycling, reuse, off-site regeneration, renewable materials and supply and leasing. We collaborate actively with suppliers and business partners across the industry chain to build a semiconductor circular economy through practical actions such as redesign, value-added circularity, recycling and recovery, shared economy, circular agriculture, and industrial symbiosis. In addition, we have formed alliances with organizations in our industry and from other sectors to examine the life cycles of resources and identify areas where resources can be reduced, recycled, and reused to prolong their lifespan, and maximize resource efficiency. In 2023, we spent approximately USD 16.3 million and launched a total of 53 circular economy projects, resulting in approximately USD 42.62 million cost saving, and the consumption of about 33,000 tons of resource material per year.



Non-hazardous Waste Project and Beneficial Result				Investment	Performance	
	Project Type	Number of projects	Description	Total investment fees (US$)	Total annual cost (US$)	Total substance weight (tons/year)
	Energy recycling	3	Incinerate mixed waste such as household garbage, waste plastic (non-chemical properties), waste wooden pallets, and combustible materials for energy recovery abd reuse	597	3,173	3,656
	Packaging material recycle	5	Recycle and reuse packaging materials such as trays, pallets, and cardboard boxes	234,654	2,580,514	564
	Packaging material reduction	4	Reduce the use of single-use packaging materials	2,988,961	8,951,401	1,121
	Packaging material reuse	12	Recycle and reuse wafer packaging materials	6,789,399	28,265,994	4,441
	Other	10	1. Crush waste plastic packaging materials and remanufacture them into plastic pellets 2. Use sintering to process waste compression-molded plastic and replace virgin materials (natural aggregate) with it for the production of eco-friendly bricks	413,072	371,523	12,015
	Total	34		10,426,683	40,172,605	21,780

Hazardous Waste Project and Beneficial Result				Investment	Performance	
	Project Type	Number of projects	Description	Total investment fees (US$)	Total annual cost (US$)	Total substance weight (tons/year)
	Energy recycling	5	High-concentration organic waste liquid, organic wipig cloths, and filter cartridges are processed through incineration and distillation, and then reprocessed into fuel boiler combustion to generate thermal energy	1,045,218	481,991	3,926
	Packaging material recycle	1	Empty chemical containers are recycled, cleaned, and reused	16,368	39,254	30
	Other	13	Alkaline copper-containing waste liquid and organic solvents are recovered through distillation	4,810,024	1,927,175	7,272
	Total	19		5,871,610	2,448,420	11,227

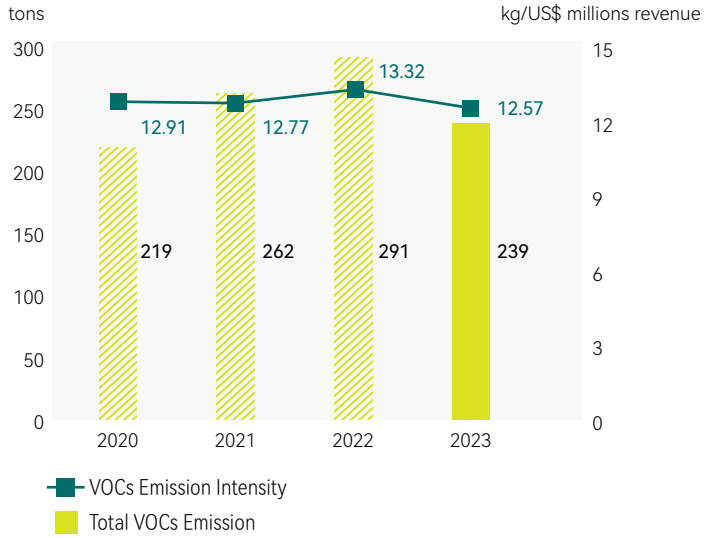
ASE Social Enterprise – The sustainable value of disposable beverage cups

In Taiwan, the popularity of hand-shake beverages has led to a marked increase in the use of disposable plastic cups that resulted in plastic waste that pose a huge environmental impact. To ensure the circular use of resources, the ASE Social Enterprise embarked on plastic cup recycling project with Da Fon Environmental Technology, a Kaohsiung-based recycling company. The used plastic cups are recycled into raw materials for manufacturing trendy crossbody bags. Each bag uses material recycled from 3 plastic cups, and we recycle approximately 8,400 plastic cups annually. A cumulative total of 11,400 cups have been recycled as of December 31, 2023, which enabled us to produce 3,800 eco-friendly crossbody bags. We will continue to drive actions to generate new, circular and sustainable value from waste and transform them into products that are practical and commercially viable.

5.4 Air Emissions Control

Air pollutants emitted in 2023 include VOCs[1], SO_x[2], NO_x[3], and particulate pollutants[4]. We adopted the use of wet scrubbers, activated carbon adsorption equipment, condensation equipment, chemical scrubbing, biological scrubbing, UV photolysis, zeolite concentration rotor incineration systems, and other preventive equipment to manage process gases and control the concentration of air pollutant emissions. In 2023, the number of VOCs emissions decreased 18% compared with the previous year. In addition to the original treatment and prevention equipment, we will strengthen our emission management to focus on source emissions and facility upgrades and improvements to reduce the environmental impact caused by the concentration of air pollution emissions.

VOCs Emission and Intensity



[1] VOCs are calculated using public coefficients, and are either directly measured or calculated using mass balance
[2] SO_x are calculated using public coefficients or converted through the concentration ratio
[3] NO_x are calculated using public coefficients or directly measured
[4] Particulate pollutants are calculated using public coefficients or directly measured

Operational Manufacturing

Source Management

- Replace existing high VOC concentration materials with clean, low/no VOC content materials
- Strengthen sealed negative-pressure environments
- Academic collaborations to optimize treatment efficiency

Preventive Equipment

High-efficiency Treatment Equipment

- Web scrubbers
- Activated carbon adsorption equipment
- Condensation equipment
- Chemical scrubbing
- UV photolysis oxidation
- Zeolite concentration rotor incineration

Emissions Monitoring

	tons
VOCs	239
SO_x	23
NO_x	50
PM_{10} / $PM_{2.5}$	15
Ozone deplenting substances	0

ASE Kaohsiung – Energy-Saving and Carbon-Reduction Action Alliance

ASE Kaohsiung's facility team has had a tradition of organizing energy-saving competitions since 2013. On the tenth anniversary, ASE Kaohsiung expanded the scope to include environmental protection, energy, water resources, and circular economy by forming the Energy-Saving and Carbon-Reduction Action Alliance. We engaged external experts as judges, and handed out awards for outstanding projects as well as commending excellence in general day-to-day operation. Company-wide recognition of winning teams serve to enhance employees' awareness of environmental protection and spur them to explore and grasp every opportunity to save energy and water, and reduce waste. We are committed to playing our part for mother earth through the building of a sustainable operation that improves the efficiency of resource use and strengthens our overall resilience.

5.5 Green Facility

Low Carbon Buildings and Green Factories

Reducing the carbon emissions of buildings is a critical step to slowing down climate change. Since 2012, we have transformed existing facilities and built new facilities and offices that comply with international low carbon building standards. Through quantifying and analyzing the entire lifecycle of building carbon emissions, carbon reduction was driven from the design stage and promoted along the value chain to build a sustainable campus. We have also integrated the evaluation of clean production in the manufacturing process, with green buildings to achieve Green Factory Certification, meeting low carbon goals at both hardware and software levels. In the future, we will continue to work towards obtaining certification for 100% of our new facilities, and demonstrate our firm commitment to green transformation.

Green Certificate
28

EEWH
(8 Diamond, 2 Gold, 2 Silver, 5 Bronze, 2 Qualified)
19[1]

LEED
(4 Platinum, 4 Gold)
8[2]

Low-Carbon Building
Diamond
1[3]

Green Factory
14[4]

Clean Production Facilities
22

Green Building Performance[5]

Energy Saving (MWh/year)	Carbon Reduction (tCO_2e/year)	Water Reuse (t/year)
248,647	124,242	3,829,880

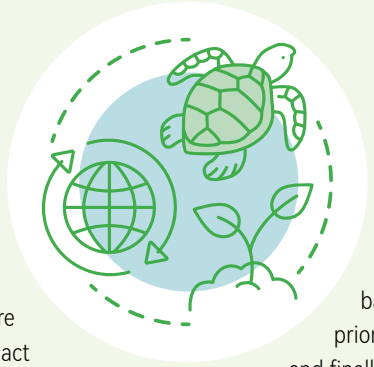
Clean Production Performance[6]

Energy Saving (MWh/year)	Carbon Reduction (tCO_2e/year)	Water Reuse (t/year)
253,062	131,173	2,411,893

[1] EEWH Certification: K3/K4/K5/K7/K11/K12/K14B/K15/K16/K21/K22/K26/KH-dom/CL-A/ CL-K&L/CL-B/CL-M/SPIL Zhong Ke /USI-NK
[2] LEED Certification: K12/K21/K22/K26/CL-K&L/ K23/CN-HQ/CN-SH
[3] Low-Carbon Building Diamond Grade: K24
[4] Green Factory: K3/K5/K7/K11/K12/K15/K21/K22/CL-A/CL-K&L/CL-B/CL-M/SPIL-ZK /USI-NK
[5] The energy saving performance of green buildings only takes Taiwan EEWH into account, and it is calculated based on the energy saving efficiency assessed by each facility when applying for the green building label
[6] The energy saving performance of clean production is calculated based on the energy saving efficiency assessed by each facility when applying for clean production certification

5.6 Biodiversity

Towards the Future of Living in Harmony with Nature



Biodiversity is fundamental to protecting the ecosystem, promoting the well-being of humans, safeguarding our planet, and maintaining economic prosperity. In June 2023, the Board of Directors endorsed the incorporation of the "Biodiversity and No Deforestation Policy" to actively engage with stakeholders and promote biodiversity and responsible environmental activities. We are committed to meeting the established targets of No Net Loss (NNL) and achieving Net Positive Impact (NPI) on biodiversity and No Deforestation by 2030. We endeavor to collaborate across our value chain to achieve the UN Convention on Biological Diversity's vision of "a world that is living in harmony with nature." ASEH is committed to the following:

- Ensure that our business operations and value chain activities are not located in globally or nationally designated biodiversity hotspots, or near the surroundings of hotspots and ecotones, to prevent negative impacts on protected species.
- If any of our business operations or value chain activities produce any negative impacts on the biodiversity or ecosystems, we will apply the mitigation hierarchy of Avoidance, Minimization, Restoration and Offsetting to mitigate the impacts and work towards the No Net Loss (NNL) target.
- Adopt an approach with regional characteristics to periodically assess the dependency and impact on the provision, regulation, support and cultural services of the ecosystems. Regularly monitor and disclose the biodiversity and ecosystem risks from our business operations and activities. Establish strategies for the corresponding actions, targets and goals, and regularly publish reports on the progress and achievements.
- Ensure that no deforestation is part of our business operations and activities across the value chain by establishing a system to monitor and strictly comply with international and national forest conservation regulations. Engage actively with suppliers and/or partners on future reforestation to compensate current forest loss (no net deforestation) and work towards the target of ending all deforestation (no gross deforestation) by 2030.

In compliance with applicable policy requirements and in response to the Taskforce on Nature-related Financial Disclosures (TNFD) initiative, ASEH directed its subsidiaries to conduct nature-related risk assessments at its 26 major manufacturing facilities worldwide. Based on the TNFD-LEAP guidance, we have identified the relationship between our major global manufacturing facilities and sensitive biodiversity areas (Locate); assessed the dependence and impact of each facility's operations on nature (Evaluate); analyzed the corresponding risks and opportunities based on the dependence and impact path assessment and determined priority risks and opportunities through materiality analysis (Assess); and finally, formulated response strategies, set monitoring indicators and management goals, and published a Climate and Environmental Report (Prepare). The results of the natural risk assessment revealed that one facility in North America and one in Northeast Asia are located next to Category IV habitat/species management areas designated by the International Union for Conservation of Nature (IUCN). However, these facilities are operating in line with local regulations and no significant ecological impact has been observed. Furthermore, it should be noted that the majority of our facilities depend on natural climate regulation to mitigate potential disasters such as extreme temperatures or irregular rainfall, and that waste treatment and greenhouse gas emissions are the main environmental impacts of our factory operations. To manage the aforementioned physical/transition risks and opportunities, each of our facilities has taken action to mitigate risks and seize opportunities through strategies such as improving energy use efficiency, optimizing water resource management, increasing waste recycling, and striving for net-zero greenhouse gas emissions. These efforts enable the company to generate profits from its operations while taking into account their impact on the environment, thereby realizing its vision of achieving harmony and coexistence with nature.

For ASEH's supplier biodiversity risk analysis, we identify the existence of any biodiversity sensitive locations surrounding the geographic locations of our 646 suppliers worldwide using the International Union for the Conservation of Nature (IUCN) World Database on Protected Areas (WDPA), where a two-kilometer radius is drawn around the center of a supplier as its potential impact area. According to the findings from the overlay analysis, there are 123 biodiversity-sensitive locations near our global suppliers. For those suppliers that are close to at least one sensitive locations, we prioritize our attention on them and ensure that they establish or enhance their

strategies for biodiversity, no-deforestation, and/or land conservation. These strategies must at a minimum, include commitments to monitor, prevent, mitigate, and address local ecosystem impacts to ensure the stability and resilience of company operations.

For ASEH's customer biodiversity risk analysis, we assess the nature-related dependencies and impacts of our customers using the tool of Exploring Natural Capital Opportunities, Risks and Exposure (ENCORE). We figure out the economic sectors or production processes of our customers, i.e. "Communications Equipment", "Electronic Components", "Electronic Equipment & Instruments", "Electronic Manufacturing Services", "Technology Hardware, Storage & Peripherals" and "Semiconductor Equipment". Then we input these sectors into ENCORE to explore natural capital risks. We find the dependencies are Ground water, Surface water and Dilution by atmosphere and ecosystems and the impacts are Water pollutants, Soil pollutants, Disturbances, Solid waste, GHG emissions, Water use (sort by rating). We will consider this information when we develop business strategy.

(For more information, see the 2023 Climate and Environment Report[1])

[1] 2023 Climate and Environmental Report complete electronic version can be downloaded from our website. https://www.aseglobal.com/en/pdf/2023-climate-and-environmental-report-en.pdf

ASE Kaohsiung's TNFD-LEAP Biodiversity Risk Assessment

To enhance the company's management of biodiversity risks, external experts were commissioned to develop natural risk assessments designed for the semiconductor industry, and position ASE Kaohsiung as an industry benchmark for biodiversity. The program consists of basic knowledge and skill training in natural risk assessment, and understanding international conservation trends. Participants were also provided introductory education on the TNFD-LEAP approach. A total of 166 participants joined the program. Next, workshops were conducted to facilitate exchanges and discussions between the internal team (practical perspective) and external consultants (academic perspective). In accordance with the LEAP model, the teams located the interface between the Kaohsiung Facilities and nature (Locate), evaluated its dependencies and impacts on nature (Evaluate), assessed nature-related risks and opportunities (Assess), and prepare strategies and goals to respond to nature-related issues (Prepare). To that end, the company has developed standard operating procedures that other ASEH facilities can adopt to manage future natural risks. These procedures may also serve as a reference for our peers in the semiconductor industry, stimulating them to address and mitigate the environmental impact of its operations and promote ecological restoration.

Results from the assessment revealed that the Kaohsiung facilities relies mainly on natural water resources, and the main environmental impacts come from copper and nickel ions in water discharge and volatile organic compounds (VOC) in exhaust fumes. Using Youchang Forest Park as a baseline, we discovered that the habitat surrounding the facilities have a low bird species richness, but high species evenness. Despite the fact that no protected bird species have been identified, the discovery of a Taiwan Barbet nest on a blackboard tree in the Kaohsiung campus is encouraging. Another notable discovery was that the discharge water quality of the Kaohsiung facilities is better than that of the Houjin River in terms of pH value, chemical oxygen demand, and suspended particles. These indicators point to a positive environmental impact. The Kaohsiung facilities' dependence and impact assessment identified eight significant opportunities and twelve material risks. After consideration of cost, justification, feasibility, and urgency, ASEH developed five primary strategies to achieve its policy objectives: water resource management, environmental management, reporting and disclosure, plant management, and eco-friendliness.

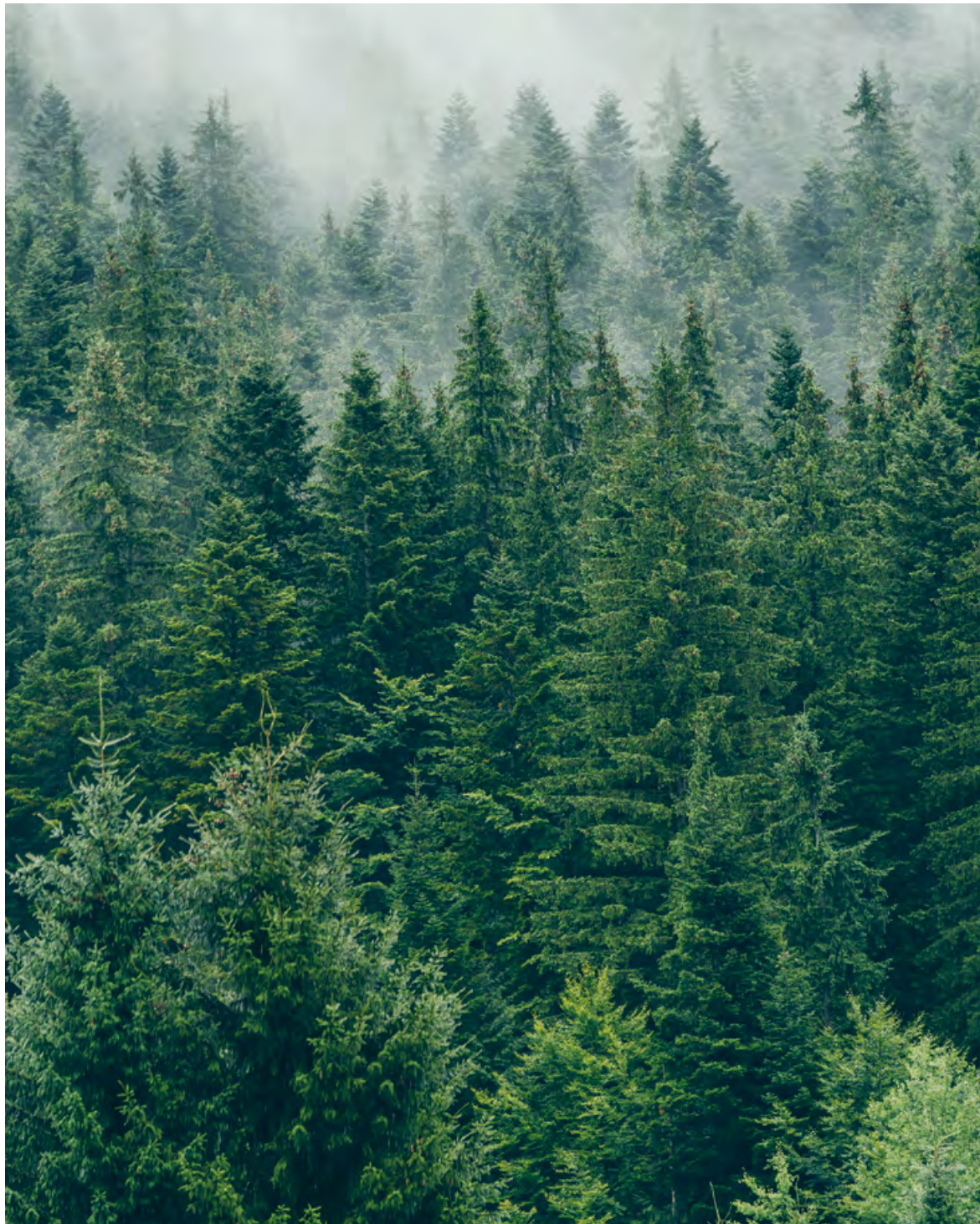
Locate		Evaluate		Assess		Preare
		Dependency	Impact	Risk	Opportunity	Strategy
Assessing the potential impact of the semiconductor industry on natural resources via ENCORE	Resource	• Tap water	• Cu • Ni • VOC • Noise	• Physical risk	• Business performance	1. Water resources management 2. Environmental management 3. Report Disclosure 4. Planting management 5. Eco-friendly
	Ecological		• Bird's investigation • Plant management	• Transition risk	• Sustainability performance	

Forest Ecology Sustainable Restoration Project at CTSP's Huwei Science Park

In alignment with the the Kunming-Montreal Global Biodiversity Framework of restoring a minimum of 30% of the terrestrial ecology and local regulations, SPIL (an ASEH subsidiary) has implemented measures to mitigate environmental impacts throughout the construction of its new facility in the Central Taiwan Science Park (CTSP) - Huwei Science Park. Inevitably, there are unavoidable environmental impacts from land use. As such, ASEH has worked with the CTSP Administration Bureau and ecological experts to adopt Huwei Science Park - park No. 5. Biodiversity restoration plans were drawn up to develop the area into a green and healthy environment for residents by planting indigenous plants. To achieve our NPI (Net Positive Impact) goals, the Huwei Science Park will be restored into a model ecological park that provides greater cultural and social value to the community, and helps mitigate the environmental impacts from the site development.

From the beginning of the project, we studied historical data on the flora and fauna, and the environmental impact assessments of the Huwei Science Park. Reconstruction of the ecological historical data was completed to provide a foundation for ecological restoration. In addition, a multi-disciplinary expert task force was formed to formulate strategic plans for the ecological restoration of the park, centered on three themes: site adjustment, reforestation, and ecological monitoring. Site adjustment involves the management of land and water resources. Reforestation refers to the creation of penetrative afforestation, environmental buffers and soundproofing forests as well as recreational corridors connected to the park. Ecological monitoring includes conducting surveys of bird and insect populations to establish an ecosystem baseline for future ecological benefit assessments, while utilizing IoT to constantly monitor microclimate fluctuations on the premises and assess the effects of the environmental enhancement measures. The ecological restoration plan has been approved by the CTSP, and the construction of the park is scheduled to commence in 2024.





5.7 Environmental Expenditures and Investments

ASEH adopted the "Industry Guidelines for Environmental Accounting" published by Environmental Protection Administration of Taiwan. We combined our existing accounting systems with environmental control coding to classify our environmental expenditures into categories in accordance with the nature of costs incurred. Our environmental expenditure is calculated and analyzed quarterly to ensure data accuracy and facilitate effective assessment.

Environmental Costs

ASEH's total environmental costs for 2023 amounted to US$ 148.9 million, with capital expenditure and expense accounting for 54.95% and 45.05% respectively.

Unit:US$ million

Category		Description	2020		2021		2022		2023	
			Capital Investments	Operating Expenses	Capital Investments	Operating Expenses	Capital Investments	Operating Expenses	Capital Investments	Operating Expenses
Operating Cost	Pollution Prevention Cost	Air, water, other pollution prevention, etc.	43.0	14.6	33.5	18.9	41.7	22	73.9	20.9
	Resource Circulation Cost	Efficient utilization of resources, waste reducing, recycling, and disposal, etc.	7.7	25.5	7.0	41.8	16.2	39.5	7.5	29.3
Upstream/Downstream Cost		Green procurement, recycling of used products, etc.	0.1	3.0	0.7	5.7	3.4	7.1	0.1	2.0
Administration Cost		Manpower engaged in environmental improvement activities and environmental education, acquisition of external environment licenses/certification, government environmental fees, etc.	0.1	10.2	0.1	11.2	0.5	11.5	0.2	11.3
Social Activity Cost		Donations to, and support for, environmental groups or activities, etc.	-	4.0	-	3.7	-	4.0	-	3.6
Environmental Remediation Cost		Fines, recovery of the environmental degradation, degradation suits, and insurance fees, etc.	-	0.01	-	0.01	-	0.0002	-	0.01[1]
Others		Global environmental conservation cost and cost to develop products to curtail environmental impact at the product manufacturing stage, etc.	-	0.04	0.01	0.04	-	0.1	-	0.03
Total			50.9	57.3	41.3	81.4	61.8	84.2	81.8	67.1

[1] We were not subjected to any major non-financial penalty or litigation that results in facility shutdown. For more details on major (greater than US$10,000) environmental-related fines or penalties, please refer to Appendix: Environmental Data- D. Environmental Violations.2023

Environmental Benefits

ASEH records environmental benefits generated from activities that reduce impacts on the environment. Our total environmental benefits for 2023 amounted to US$ 90.51 million.

Unit:US$ million

Category	Description	2020		2021		2022		2023	
		Environmental Benefits	Economic Benefits	Environmental Benefits	Economic Benefits	Environmental Benefits	Economic Benefits	Environmental Benefits	Economic Benefits
Cost Savings	Reduction in costs due to energy saving and carbon reduction projects	787,095 MWh[1]	71.1	1,107,145 MWh[1]	62.8	938,236 MWh[1]	50.1	1,022,276 MWh[1]	60.38
	Reduction in water costs due to water saving projects	34,437,950 metric tons	11.0	37,817,390 metric tons	16.7	45,880,154 metric tons	19.3	47,214,933 metric tons	18.81
	Reduction in waste disposal costs due to waste recycling	62,043 metric tons	16.2	69,091 metric tons	18.7	52,207 metric tons	13.5	49,520 metric tons	11.32
Total		-	98.3	-	98.2	-	82.9	-	90.51

[1] The reduction in electricity by using renewable energy and purchasing I-REC is included.

Our estimated environmental capital expenditures for 2024 will be approximately US$29.4 million. The board of directors has resolved in 2023 to contribute around US$3.7 million (NT$100.0 million) through the ASE Environmental Protection and Sustainability Foundation to fund various environmental projects in 2024.

Sustainable Finance

At ASEH, sustainable financing is a strategic approach for us to advance our low carbon commitment and drive business transformation to mitigate climate change. To demonstrate our ambition, we have issued two Green Bonds since 2014 with UOP of increasing renewable energy usage, energy related technology development, increasing energy efficiency, promoting energy conservation, reducing greenhouse gas emissions, recycling and reusing waste materials, and water conservation/purification/recycling. In 2021, we structured Sustainability-Linked Loans that incorporatevariable interest rates linked to the achievement of pre-set ESG targets. This forms an additional incentive for the company to strengthen our developments in GHG emission reductions, renewable energy usage, waste processing, as well as to achieve a listing on the Dow Jones Sustainability Indices.

Going forward, we will continue to evaluate and develop meaningful green investment projects. As an early adopter of sustainable financing user in Taiwan, through our demonstration, we expect to motivate more companies touse green financial instruments as their leverage.Moreover, to lead the industry to accelerate the creation of a low-carbonsustainable development..

- **2014:** Advanced Semiconductor Engineering, Inc. issued a 3-year Green Bond with a total value of US$300 million via indirect shareholding of its subsidiary, Anstock II Limited.
- **2019:** ASEH issuedGreen Bonds with 3 (type A)and 5 year (type B) terms respectively at a total value of US$300 million.
- **2021 to present:** ASEH in contract Sustainability-linked Loans with multiple banks.

INCLUSIVE WORKPLACE

At ASEH, the concept of People-First is fundamental to our corporate philosophy of creating diversity and inclusion. The company respects the differences and values of each individual that help shape a diverse labor force, and commits to providing our employees a safe, healthy and high-quality work environment as well as protecting their human rights.

We are also committed to creating an environment for employees to achieve meaningful and valuable career developments within the organization. To that end, investing in talent management is the lynchpin of our human capital strategy to maintain a skilled and experienced workforce that fuels innovation and provides the company a leading edge.

ASEH Human Capital Development

Education
Training Effectiveness
Competency Development

Retention
Equal Respet and Communication
Safety Workplace

Recruitment
Organization Planning
Recruitment and Selection

Utilization
Career Planning
Performance Appraisals

2023 Key Performance

Employees Bonus[1] (US$)	New Hires	Percentage of Females in Management Positions	Percentage of Females in Top Management Positions	Regular Employees in Labor Unions
343 million	14,055	29%	14.8%	30,884

SDGs	Business Actions	2023 Material Aspects	KPI	2023 Target	Status	2023 Performance	2024 Target	2030 Target
4 QUALITY EDUCATION	Ensure that all employees have access to vocational training and lifelong learning opportunities	Talent Attraction and Retention	Employee Engagement Survey Coverage (%)	>85%	Achieved	95.1%	>87%	>95%
			Turnover Rate (%)	<20%	Achieved	14.2%	<20%	<20%
		Diversity and Inclusion	Female Employee in Top Management Positions (%)	13.8%	Achieved	14.8%	14.6%	>15%
		Talent Development	Management Positions through Internal Promotions (%)	>75%	Achieved	83.2%	>75%	>75%
			Rate of Open Positions Filled by Internal Candidates (%)	>50%	Achieved	73.1%	>50%	>55%
8 DECENT WORK AND ECONOMIC GROWTH	Formulate and support a comprehensive workplace safety framework to ensure decent working conditions for all employees across the industry	Occupational Health and Safety	Cases of Major Injury[2] and Occupational Disease	0	Not Achieved	Major Injury: 0 Occupational Disease: 28	0	0
			Disabling Injury Frequency Rate (FR)	<0.5	Not Achieved	0.72	<0.5	<0.5
			Disabling Injury Severity Rate (SR)	<9	Not Achieved	19.35	<9	<9
			Employee Absenteeism Rate (%)	<2.3%	Achieved	2.2%	<2.3%	<2.3%

[1] Employee Bonus includes: Monthly Incentive Bonuses + Annual Profit-sharing Bonuses
[2] The definition of major Injury: occupational fatality

6.1 Talent Attraction and Retention

Diversity in Human Resources

ASEH has over 83,000 employees worldwide[1], of which 98.3% are regular employees and1.7% are contract employees. There are 39,478 employees in management, engineering and administration positions, and 43,751 employees in technical positions on the production line. With an average employee age and tenure of 36 years old and 8 years respectively, ASEH's human capital structure is robust enough to support the company's rapid growth. To attract employees, ASEH ensures that its subsidiaries offer compensations and benefits that do not discriminate on the basis of gender, age, nationality, race, religion or job position. Due to the nature of the semiconductor industry, engineering positions require STEM (science, technology, engineering, and mathematics) knowledge and skills. Therefore, 80% of the company's engineering positions are held by male employees, while female employees form the majority in administrative positions (over 60%) and technical positions on the production line (over 60%). More than 6,000 female employees at ASEH hold STEM-related positions, accounting for approximately 18.3% and the proportion of female employees who hold management positions is more than 29%.

We understand that a diverse and inclusive workplace environment that maximizes the unique and different traits of employees facilitate the organization's operational efficiency. Globally, ASEH has established 25 operating locations in nine countries and hired employees of 18 different nationalities. More than 96% of our employees are from Taiwan, China, Philippines, Malaysia, Mexico and South Korea. Nearly 70% of our employees are based in Taiwan - the primary location of our operations, 20% in China, and the rest in the Asia-Pacific and America regions. Since 2017, we have gradually increased the hiring of persons with disabilities – achieving 596[2] persons in 2023.

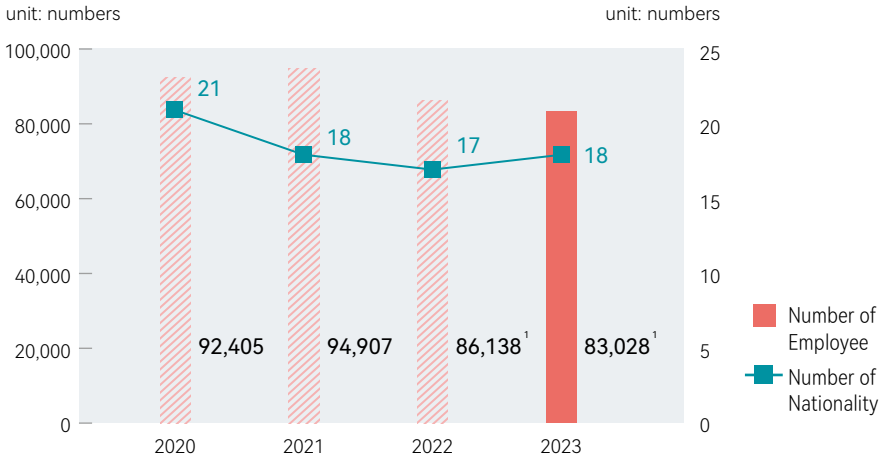
[1] The employees' data covers all of our manufacturing facilities, but excludes our sales, administrative and other offices located in U.S.A. and Europe

[2] According local legislation required the Taiwan facilities to employed a total 665 employees with disabilities, with the weighted ratio reaching 1% of total employees, which is in line with legal requirements; at the USI Nantou Facility, workers with disability contributed to less than 1% of the overall workforce and the company paid for the difference in subsidy fees as required by law

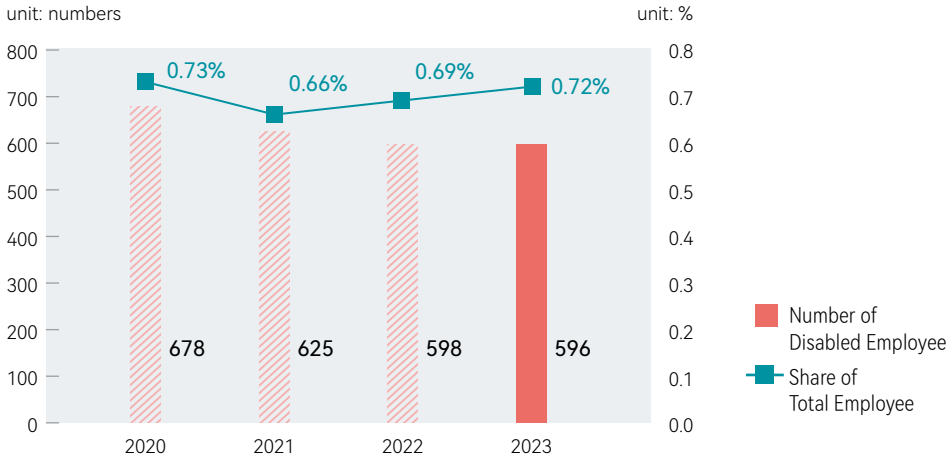
Global Workforce Structure

Category	Group	Number	Percentage of Total Employee (%)
Employment Type	Regular	81,855	98.3%
	Contract	1,374	1.7%
Gender	Male	43,811	52.6%
	Female	39,418	47.4%
Location	Taiwan	57,721	69.4%
	China	14,466	17.4%
	Rest of Asia	7,354	8.8%
	Americas	3,688	4.4%
Disabled Employee	Male	357	0.4%
	Female	239	0.3%
Position	Management	6,133	7.4%
	Engineering	27,535	33.1%
	Administration	5,810	7.0%
	Skill Job	43,751	52.5%
Age	<30	21,217	25.5%
	30-50	55,619	66.8%
	>50	6,393	7.7%
Education	Ph.D	155	0.2%
	Master	7,252	8.7%
	Bachelor	30,854	37.1%
	Other Higher Education/ High School and Below	44,968	54.0%
Total		**83,229**	

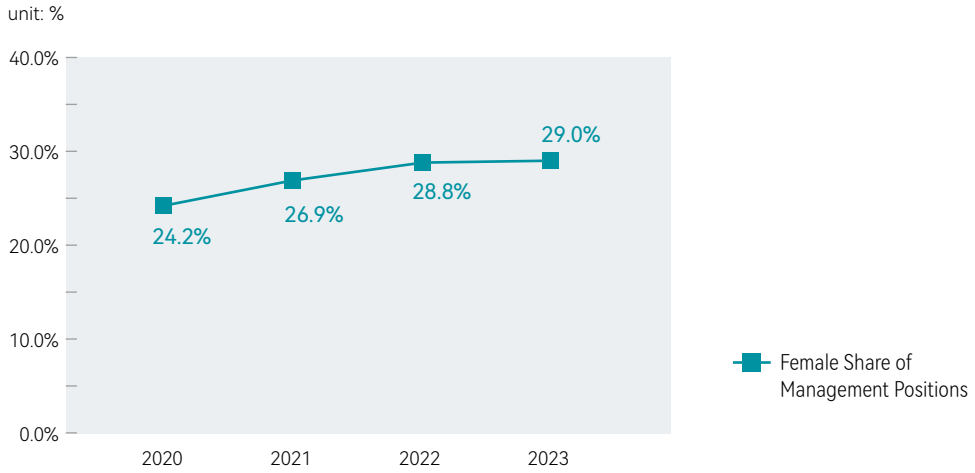
Total Employee and Nationality



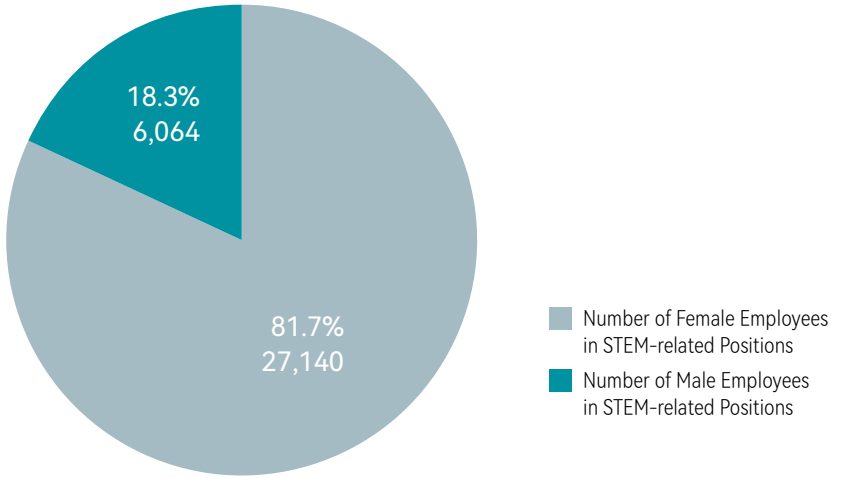
Disabled Employee



Females in Management Positions



2023 STEM-related Positions Employee



[1] The number of employee by nationality do not include ISE Labs

Talent Recruitment

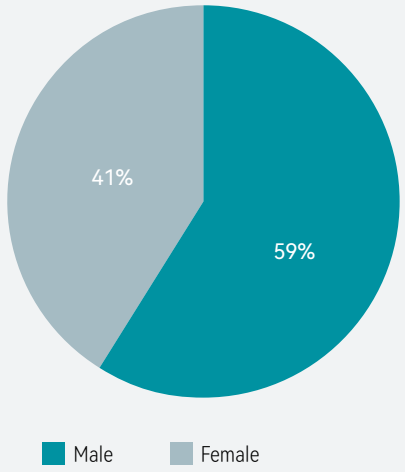
ASEH and its subsidiaries employ a diverse, equality and inclusive recruitment policy that prohibits discrimination against any employee or job applicant on the basis of gender, age, race, nationality, religion, political affiliation or sexual orientation. The company is committed to complying with local laws and regulations, upholding its Code of Business Conduct and Ethics, protecting and respecting human rights and adhering to the Responsible Business Alliance ("RBA") Code of Conduct. ASEH forbids the use of child or forced labor and discourages recruitment agencies from collecting agency fees from foreign employees.

ASEH's corporate recruitment policy takes into account the conditions and culture of the local communities as well as the job characteristics. We recruit through various channels including campus recruitment, employee referrals, industry-academia internship programs, the R&D substitute service program, executive search firms, recruitment fairs, online recruitment and digital job boards. In 2023, ASEH recruited over 14,000 employees, of which 14.4% are engineering positions, and 16.7% of female engineering employees, a 16 % increase from the previous year, and 80.5% are skilled technical positions on the production lines. ASEH has also hired 161 persons with disabilities.

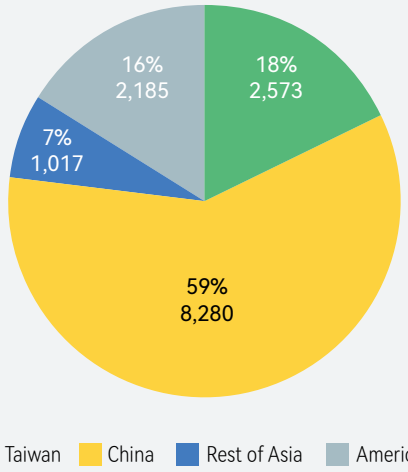
As a global enterprise, we recruit a diverse pool of high-quality talents from all over the world. Helping foreign employees adapt and retaining talent at the workplace are our top priorities. In 2023, we hired over 1,000 new foreign employees.

Our subsidiaries provide new hires with interpreter service and also assign them with senior foreign employees from the same country so as to help them adjust to their new work environment and familiarize themselves with the local culture. Foreign employees are also provided educational training programs in languages they understand, and they are accorded the same benefits as local employees. Our global and diverse talent recruitment policy has helped us improve the company's global advantage and competitive capabilities, thus allowing us to meet the market needs of an increasingly diverse customer base. We believe that a workplace culture defined by diversity and inclusion, will allow employees to grow and develop mutual respect, resulting in a genuinely inclusive work environment.

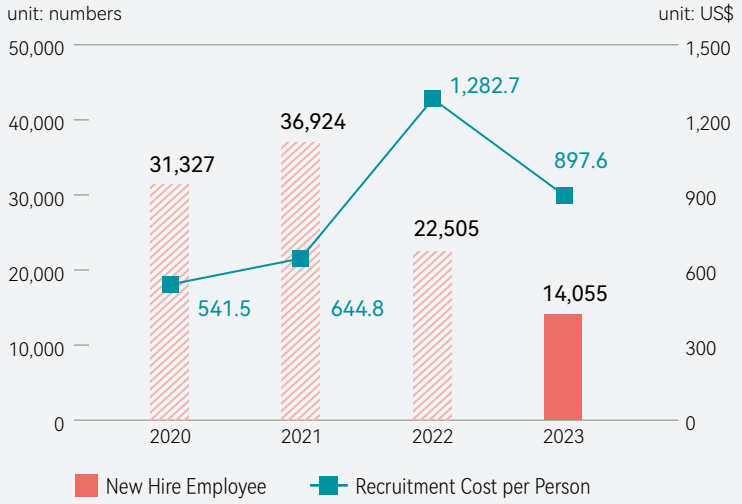
New Hires (by Gender)



New Hires (by Location)



New Hires and Recruitment Cost



Key Highlight – Creating a Diverse and Inclusive Workplace

In response to the highly competitive labor market in the semiconductor industry, recruiting foreign talent is becoming mainstream for business enterprises. ASEH aims to attract talents to Taiwan through a systematic training and welfare program that will develop a growing pool of global professionals, and build a workplace of innovation and diversity. We are deeply committed to 'attracting, integrating, and retaining' foreign talent and have invested substantial resources for recruiting and nurturing talent, and building a diverse workforce. ASEH is going a step further to create a workplace friendly and inclusive environment by designing a customized employee program for foreign talents.

[People-centric Approach: Eradicating Modern Slavery]

ASEH enforces a zero-fee policy throughout all stages of foreign employee recruitment, employment, onboarding, contract renewal, and safe return to their home countries.

[Listening and Responding: Establishing Smooth Communication Mechanisms]

To maintain effective two-way communication and interaction, ASEH has established a comprehensive and diverse communication channel to ensure a fair and just workplace for employees. Employees can provide feedback via the phone, email, and online platforms. These channels trigger immediate attention and prevent communication gaps, as well as provide a form of support to foreign employees in Taiwan, especially in the absence of family or friends. In ASE Kaohsiung, a dedicated system for foreign employee care was created. Over the course of the year 2023, the Kaohsiung site held 13 sessions of monthly meetings in foreign employee dormitories and 7 sessions of annual white-collar staff seminars. Senior employees regularly mentor juniors to help improve their work and life quality. Additionally, various competitions and activities are organized to actively engage employees in the corporate culture, resulting in a 95% retention rate among foreign employees.

[Enabling Job and Life Satisfaction]

An inclusive workplace culture can enhance employee job satisfaction, thereby boosting productivity. The ASE Kaohsiung Facility has its own foreign employees' club which has hosted about 30 events in 2023. The club is a platform for cultural exchange and interaction among employees from different backgrounds. Employees often share anecdotes at these events, fostering cohesion and strengthening cultural understanding.

[Career Development: Planting roots in Taiwan]

We offer specific HR programs for different job positions, and promote on-the-job training for the continued education of our foreign employees. Efforts facilitating migrant workers' education and professional development in Taiwan include tuition subsidies, and encouraging employees to complete university degrees for future promotion to managerial or engineering positions.

Concurrently, in line with government policies, we implement a mid-level talent program to enable outstanding individuals to transition to engineers or white-collar positions, improving their eligibility to apply for permanent residency. With these policies in place, foreign blue-collar workers now have better opportunities to settle in Taiwan and establish roots as they would not be subjected to the regulatory employment term limits of 12 years.

[Providing a Safe Living Environment]

ASE Kaohsiung invested NT$1 billion in the building of a smart, eco-friendly female dormitory – the 88 Dream Park. Safety, hygiene, convenience and regulatory compliance form the basis for the design and construction of the dormitory. To promote a green living environment, solar panels, green heating equipment, rainwater recycling systems, and eco-compressors were installed at the dormitory. Dorm residents adhere to green waste management by sorting and disposing of garbage responsibly. The facilities at the dorm include a 24-hour convenience mart, a store offering local and imported products, prayer rooms, massage chairs, 24-hour security, bilingual dormitory managers, daily shuttle services, resident card access control, and well-equipped fire safety standards. We are fully committed to providing conducive living conditions and peace of mind for employees who travel far to work in Taiwan.

[Managing the ASE Image]

ASEH's outreach to foreign students in local and overseas schools form an integral part of its diversity and inclusion policy. Campus visits and student tours enable more students to learn about the company, raising greater awareness of ASE and boosting its image and reputation. These efforts aim to attract more talents and drive better support for the company from the target audience in particular, and the public in general. In recent years, the company has actively collaborated with universities, conducting visits to local and overseas campuses. For instance, ASE Kaohsiung has completed six campus engagement activities, involving over 700 participants. These activities augment our talent recruitment efforts by providing foreign students deeper insights on the state of Taiwan's semiconductor industry and the attractive career opportunities available.

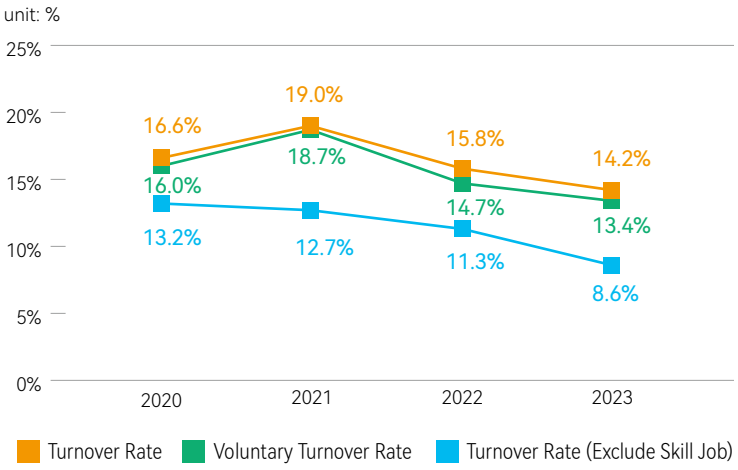
Employee Turnover[1]

Employee turnover at ASEH was 14.2 % in 2023, a 1.6 % decrease from the previous year. The turnover at our facilities in Taiwan was lower than 10%. The employee turnover rate at ASEH broken down into 55% male vs 45% female. In terms of job types, production line skill job position form the majority with 71.2%, while management, engineering and administrative positions formed the remaining 28.8%. On a biannual basis, ASEH subsidiaries conduct employee engagement surveys to encourage feedback and opinion sharing from employees. ASEH also perform annual analyses on the causes of attrition for different job types, the turnover was mainly attributed to factors such as remuneration, career growth and personal reasons, so as to make corresponding improvements for increasing employee job satisfaction and talent retention rates. As a technology company, we apply big data analytics to identify underlying and correlating factors that affect turnover and extrapolate behavioral factors that contribute to talent attrition. The analysis combines other factors such as regional attributes and challenges, to identify talent retention risks and project potential employee turnover rates. A deeper understanding of the dynamics affecting turnover will help the company to formulate strategies to manage the risks for retaining talent. Meanwhile, for facilities with high turnover among new hires, various actions will be adopted to help employees adapt to their work environment and prevent the depletion of human capital.

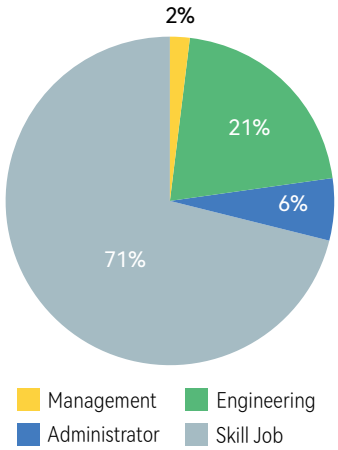
Reason for Resignation	Improvement Measures
Salary and Benefits	• Periodically adjust salary and benefit packages based on industry standards to maintain the Company's competitiveness • Issue stock options and cash bonuses to employees that display outstanding performance
Career Advancement	• Build a comprehensive career advancement system that provides multi-channel trainings (internal and external training programs) and an internal job rotation and transfer mechanism, helping employees to acquire the necessary on-the-job training and project experience and offering promotion or job transfer opportunities based on organizational/ business needs • Create a direct communication channel through which management can explain future career pathways to entry-level employees in person
Family and Personal Health Issues	• Develop an in-house working hours management and control system to help supervisors manage their subordinates' working hours, send SMS or email alerts to employees working longer hours and remind them to complete their tasks more efficiently so as to balance their work and family life • For family/personal health issues that can be resolved by the company, supervisors may adjust the job requirements or place of work of subordinates with their consent

[1] Turnover rate includes voluntary resignations and terminations due to poor performance, but does not include employees on probation at time of termination

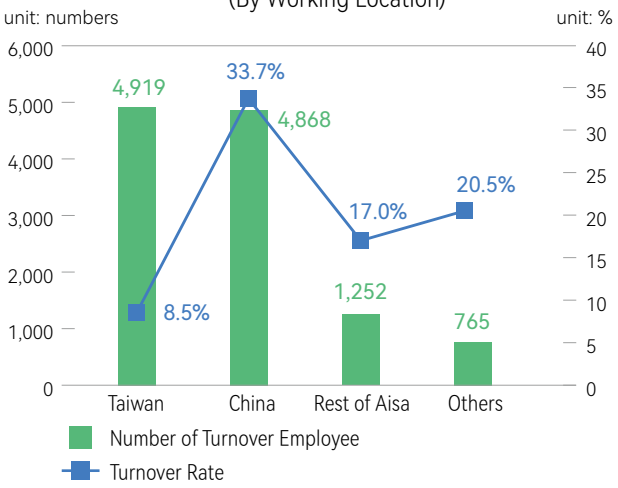
Turnover Rate



2023 Turnover Employees (By Position)



2023 Turnover Rate (By Working Location)



Talent Retention

ASEH provides a conducive environment for employees to unleash their full potential to create innovative technologies or to demonstrate effective management skills. The growth of the company is strongly dependent on attracting and retaining talent.

Key Retention Strategy

a. Highly Competitive Compensation and Benefits

b. Fair and Comprehensive Performance Review

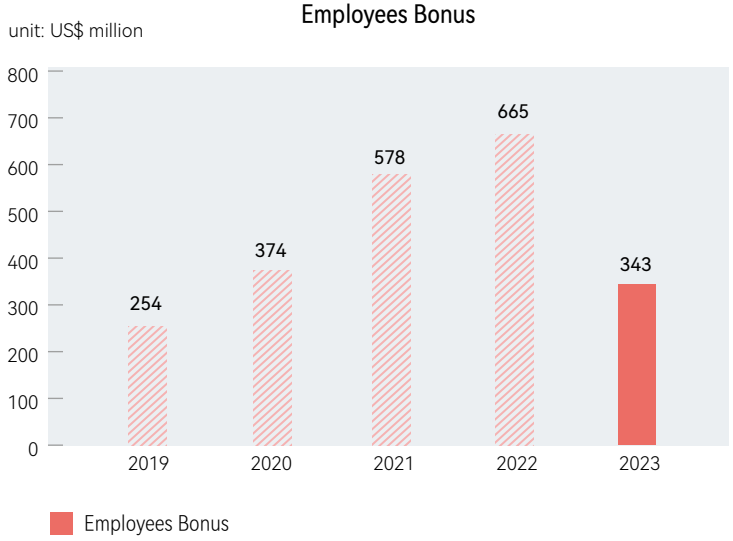
c. Open Communication and a Grievance Mechanism

d. A Multi-faceted Employee Engagement Survey

Compensation and Benefit Policy

ASEH provides competitive remuneration packages that consist of base salary, subsidies, employee cash bonuses and other compensation based on a combination of the company's achievements of business objectives and profitability, as well as the employees' job responsibilities, professional qualifications and job performance etc. Employee remuneration is not determined based on factors such as gender, age, race, nationality, religion, political stance or gender orientation. Every year, our facilities benchmark employee base salaries with the local market rates to ensure a competitive compensation structure. In order to attract and retain talent, and reward performing employees, the company has established monthly incentive and annual profit-sharing bonuses. Monthly cash incentive bonuses are provided to employees with outstanding performance based on the company's operating goals and profitability, while annual profit-sharing bonuses vary according to the employee's individual contribution levels and performance. In 2023, ASEH's employee bonuses amounted to US$343 million (including monthly incentive and annual profit-sharing bonuses), with the accumulated total from 2017 to the end of 2023 reaching US$2,624 million. In addition, employees with outstanding performance are awarded company stock options is aimed at retaining outstanding employees.

Employees Bonus



Male/Female Salary and Compensation Ratio

Category	Group	2020		2021		2022		2023	
		Male	Female	Male	Female	Male	Female	Male	Female
Executive Level	Salary	1	0.96	1	0.96	1	1.03	1	1.03
	Compensation	1	0.76	1	0.88	1	1.02	1	1.00
Management	Salary	1	0.89	1	0.94	1	0.96	1	0.99
	Compensation	1	0.88	1	0.96	1	0.96	1	1.00
Non-management	Salary	1	0.996	1	0.989	1	0.989	1	0.993
Engineering	Salary	1	1.02	1	1.01	1	0.98	1	0.97
Administration	Salary	1	0.96	1	0.97	1	0.99	1	0.96
Skill Job	Salary	1	1.004	1	0.99	1	0.99	1	1.02

Key Highlight: Bottom-up Profit Sharing Scheme

At ASEH, we value the unique importance of each employee, and maximizing their potential to play key roles within the company is the primary motivation behind the inception of our profit sharing concept. Against a backdrop of an industry downturn in 2005, ASEH continued to make meaningful investments in its people and resources, including the roll out of a bottom-up profit sharing scheme. On a monthly basis, the company formulates a bonus payout, that is determined by the achievement rate of operational goals set by the management team with participation from employees. Since the launch of the scheme in 2005, ASEH has grown steadily in terms of revenue, profitability and output efficiency, and is now a reputable leader in the packaging and test industry.

We believe that the effectiveness of an incentive lies in its ability to improve employee morale and strengthen organizational identification through a system that optimizes leadership, ownership and provides instant gratification with transparency. ASEH continues to build on the value of employee skills, fostering their dedication and commitment at work, and shaping the development of mutual trust between employees and supervisors. When employees are aligned with the company's strategic goals, they exert a positive influence across various levels in the organization resulting in a stimulating, dynamic, growth-focused and agile team.

Principles and Features of the Bottom-up Profit Sharing Scheme

Principle	Feature	Description
Real-time	Monthly Evaluation Mechanism	The scheme is designed to provide a monthly bonus payout based on performance evaluations tied to the achievement of operational goals. The monthly evaluations ensure regular communication between managers and employees. Ground level communication allows the monitoring of organizational productivity that reflect real-time performance of departments and employees as well as the identification of new ways to enhance output efficiency.
Potential	System Transparency	Outstanding junior employees get the opportunity to become star employee of the month which further stimulate their passion for their work. The system also encourages development of high potential employees, improving the cohesion of organizational dynamics.
Efficiency	Frontline Priority	We believe that frontline employees have the strongest ties to improving productivity and efficiency in production output. Therefore, we adopted a bottom up approach for bonus distribution with priority given to junior engineers and the management level given the last consideration. At the same time, we take into consideration the performance and special contributions created by the organization and the team, and formulate strategies for different levels of competitive bonus distribution. Rewarding from the bottom up sets the company on a positive cycle of achieving higher levels of efficiency with a motivated workforce.

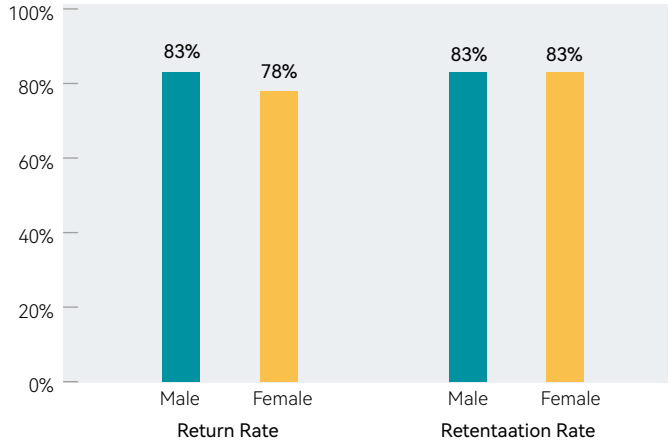
Maternity Benefits and Parental Care

Friendly Workplace

To alleviate the burden on employees, ASEH has built a comprehensive leave management system in alignment with the various local government policies on parental leave. We proactively provide employees with information on labor insurance and subsidies, and assist them with the leave application procedure.

A total of 4,540 ASEH employees were on parental leave in 2023, including 960 on unpaid leave. Among the 779 workers expected to return to work, 615 actually returned, equivalent to a 79% return rate and a 83% retention rate. The number of newborn children at all facilities in 2023 was 1,853. Of the total number, 1,316 were from the Taiwan sites, accounting for0.97% of all newborns in Taiwan. The data demonstrated the success of the company's comprehensive parental care and benefits allowing our employees mind plan a for a family and the peace of mind to raise children.

ASEH's subsidiaries have implemented a number of maternity benefits that go above and beyond the legal requirements ranging from maternity leave, paternity leave, prenatal check-up leave, childbirth subsidies, to childcare allowances. These initiatives are intended to support employees' worklife balance, and encouraging more childbirth while at the same time, helping to address Taiwan's aging population trend.



Maternity Benefits

Paid Maternity Leave (For the Primary Caregiver)

- **ASE:** Female employees at the ASE Kaohsiung and ASE Chungli facilities are entitled to paid maternity leave of 10 weeks, exceeding the statutory requirement of 8 weeks. They can also apply for an additional 24 weeks of parental leave at 80% of their insured salary, resulting in a total of 34 weeks of childcare leave

Paternity Leave and Paternity Check-up Leave (For the Non-primary Caregiver)

- **ASE:** Paternity/prenatal check-up leave for employees at the ASE Kaohsiung and Chungli facilities was extended from the legally mandated 7 days to 10 days. Employees can also apply for an additional 24 weeks of parental leave at 80% of their insured salary, resulting in roughly 26 weeks of childcare leave

Childbirth Subsidies

- **ASE:** ASE Kaohsiung and ASE Chungli offer a child birth subsidy of NT$10,000 per child; ASE Malaysia offers a one-day congratulatory paid leave a day after an employee's new born child
- **SPIL:** SPIL plans to offer a child birth subsidy of NT$3,600 per child
- **USI:** USI offers a child birth subsidy of NT$6,000 per child

Childcare Allowance

- **ASE:** Childcare facilities established in ASE Chungli and ASE Kaohsiung in Taiwan, and ASE Korea
- **SPIL:** SPIL offers a monthly subsidy of NT$5,000 per child (NT$10,000 if both husband and wife work at SPIL) aged 0–6 years-old

Breastfeeding and Maternal Health

- Our facilities have dedicated on-site breastfeeding rooms that provide a private, comfortable and safe environment for breastfeeding employees, with unrestricted access during normal working hours
- A special maternity program was designed to monitor the health and provide support for employees who are pregnant, one year postpartum or are breastfeeding. Other pregnancy friendly workplace programs include conducting health hazard assessments, adjusting work duties during pregnancy, and providing maternity benefits and reinstatement after giving birth

Childcare Facilities

ASEH has 3 facilities worldwide that have set up childcare facilities within their premises – ASE Chungli and ASE Kaohsiung in Taiwan, and ASE Korea.

With proximity to nature and lush greenery in the surrounding areas, ASE was able to integrate food and farming education, green building design, art and aesthetic experiences, multi-learning areas, a library and high quality teaching equipment into the teaching curriculum. Our aim is to provide an innovative educational environment to let children develop their abilities through real life experiences and achieve a balanced physical and psychological development.

ASE Kaohsiung's Kindergarten


ASE Chungli's Kindergarten


ASE Korea's Kindergarten

The ASE kindergartens and childcare centers provide high-quality and affordable education and day care services for employees. To adjust to employee work schedules, our kindergartens operate flexible hours with the nursery operating from 7am to 8pm so that our employees do not need to worry about their children while at work. ASE subsidizes the operating cost of the facility including utilities, cleaning and disinfection, general maintenance, fire safety measures, meal plans designed by dietitians and outdoor learning activities. The subsidy helps to lower the tuition fees and alleviate our employees' financial burden, while allowing the children to benefit from high-quality childcare and learning environments. The ASE childcare and kindergartens are an extension of our employee-care management and we will continue to implement programs that support family values and strengthen employees' loyalty.

Flexible Work Arrangements

Taking care of employees' health and well-being is critical to ensure high job satisfaction, productivity and retention rates. A flexible work scheme that allows employees to adjust their work schedules according to personal needs and commitments can drive improvements in morale and productivity, and lower absenteeism. It can also augment our human resource programs to attract and retain top talents, and reduce employee turnover. Flexible work schemes at ASEH and its subsidiary companies include flexible working hours, work from home arrangements and part-time working.

Flexible Work Hours

Providing flexible working hours based on the nature of work and personal needs (including family care or on-the-job training) to meet the requirements of different work hours or time zones. Our employees may apply for work hour adjustments with their supervisor's approval. Flexible work hour schemes have been implemented at ASE facilities in Chungli, Japan and Singapore, as well as USI facilities.

- Employees are allowed to apply for flexible work arrangements due to health or other personal reasons.
- Attend to work duties during scheduled hours, while allowing work flexibility beyond that.
- Maintain flexibility to adjust working hours. Employees are allowed to end their work day whenever they have completed the day's task.

Work from Home

ASE Japan, ISE Labs and USI : Designed a set of policies/guidelines to allow eligible employees to apply for work from home (remote) on a short or long-term basis.

Part-time Working

ISE Labs has officially implemented a part-time employee policy which provides company benefits to part-timers who work a minimum of 30 hours per week.

Performance Management

We consider performance management a means to improve the performance outcome and value of individuals, organizations, and the company as a whole. ASEH's subsidiaries adopt a multi-dimensional performance management system to evaluate employee job performance which is conducted twice a year for all employees. In addition to receiving timely feedback from their immediate supervisors based on the evaluation, employees can also obtain cross-departmental suggestions from senior management or colleagues. The performance evaluation focuses on individual achievements and goals, and team goals. These assessments serve as the basis for employee promotion, training and development, and compensation. Our evaluation incorporates various approaches which include management by objectives, multi-dimensional performance appraisal, team-based performance appraisal, and agile assessments. Development plans are formulated accordingly after the employees and their supervisors identify areas for improvement in their current roles or future career plans. For employees experiencing performance gaps, supervisors will provide immediate feedback and targeted coaching. Supervisors will be focused on assisting the affected employees to maximize their efficiency in their job roles and responsibilities.

Performance Appraisal

Evaluation	Type	Frequency	Approaches
Management by Objectives	• Performance Evaluation • Management Level Evaluation	Every half-year	• Employees propose work goals and measurable performance indicators. After discussing and confirming with their immediate supervisors, they set periodic goals. At the end of each period, a review to check on the alignment of performance indicators and self-assessment of accomplishments are conducted. The supervisor evaluates the level of goal achievement and provides feedback and suggestions. • Employees at the deputy manager level and above receive evaluations and improvement feedback from their superiors at the vice president level and above.
Multidimensional	• Job Attitude and Promotion Evaluation • Performance Evaluation	Every half-year	• (1) Cross-departmental supervisors provide assessments on team collaboration, accountability, innovation, leadership mindset, and other aspects of daily interactions with the evaluated employees. (2) The employee will present an overview of their past achievements and offer a glimpse into his/her future plans if promoted. The review process is carried out by the individuals' directors or vice presidents to assess their readiness for a higher level of responsibilities. • The evaluation is conducted through a review committee consisting of the immediate supervisors, cross-departmental unit supervisors, team members, and customers. This multi-dimensional approach allows for a comprehensive assessment of the evaluated employee.
Team-based	• Individual Performance Reviews • Team Goal Reviews	Monthly	• On an annual basis, the company formulates overall organizational goals and engages selected key employees through the Annual Objective Deployment (AOD) framework that further connects individual employee goals to long-term company goal. Department heads and key business unit (BU) employees proceed to establish annual goals, project objectives, expected outcomes, and so on. Annual team goals will then be submitted to the company's committee through each BU. • As a team, each BU and factory formulate effective Key Performance Indicators (KPIs) based on the overall annual goals. Within each team, smaller functional groups take stock of the key results at each stage, demonstrating the team's Objectives and Key Results (OKR) and apply them further to individual OKRs.
Agile Conversations	• Monthly Evaluation	Monthly	• Goals are set based on employees' semi-annual performance evaluations. Monthly progress discussions and indicator reviews are conducted between supervisors and employees to provide timely feedback to employees. This practice fosters monthly dialogues between supervisors and employees, monitors organizational productivity, and enables timely response to department and employee performance.

Key Highlight: Creating the Best Team

To unleash the potential of our employees and foster an understanding of the importance of teamwork, our company places a strong emphasis on the concept of 'team'. We not only recognize individual achievements but also invest significant effort in building trust and synergy within teams, and encouraging them to achieve shared goals. While an outstanding individual may have secured a significant project for the company, it is a strong and synergized team that can help the organization maintain its lead in the industry. At ASE Kaohsiung, team building is fundamental to the organization and is implemented through various internal competitions that emphasize teamwork. These competitions include the Annual Best Team Award, CIM Technology Competition, Safety Committee Project Competition, Engineering Committee Annual Competition, Quality Committee Presentation Competition, Energy Saving and Carbon Reduction Action Competition, and Machine Safety Competition. Through these team competitions, we strive for improved quality and efficiency, enhanced automation and safety, and technological advancements. By setting clear team objectives and fostering collaboration, these competitions promote collective brainstorming, specialized task allocation, mutual learning, observation, and competition among teams. Team building is one of the many integrated approaches that help to drive the company's growth and achieve its sustainability goals.

Employee Communication

ASEH values and respects the opinions and rights of its employees. In an effort to promote open and transparent communication, the company has established comprehensive communication channels including unidirectional and bidirectional communication modes. Employees are able to receive the latest news about the company and express any opinions or concerns they may have about the workplace. To protect and ensure employees' rights, employee opinions may be submitted anonymously.

We promise to maintain the confidentiality of the identities and opinions of employees, who shall not be subject to any unfair treatment or retaliation as a result of their whistleblowing or grievance.

Announcements and Publications

- Intranet - to publish the company's latest news
- E-mail Announcements - to announce company-wide updates and messages from top management
- Bulletin Boards - to provide information related to labor compliance policy, health and safety and company events
- Internal Periodical Publications – interviews with employees and a platform for employees to express their opinions
- News/Information TV Screens - to broadcast employee welfare information

Communications

- Employee Opinion Box / Employee Care Mailbox - to collect and respond to employees' grievance and feedback
- Employee/Foreign Employee Symposium - to share and discuss work experiences; to hold regular symposiums with foreign employees
- Counseling Room - to provide one-on-one counseling sessions
- Email Mailboxes - General Manager/Plant Director Mailbox
- Service/Grievance Hotline – designated telephone hotlines
- Labor Unions and Labor Management Meeting - to have regular communication with labor representatives

In 2023, ASEH and its subsidiaries received a total of 784 employee complaints. Of which, 694 cases were resolved after conducting formal investigations. We have engaged in dialogue with complainants to clarify issues and seek consensus-based solutions, ensuring effective resolution of all cases. Currently, 8 external complaints are still under investigation. Among the complaint cases, 23 pertained to labor disputes, all of which were resolved amicably after clarifying the facts and giving proper care to complainants; and another 10 cases were sexual harassment complaints relating to nonconsensual physical contact in the workplace where the victims felt violated. Pursuant to internal regulations and procedures formulated in accordance with the 'Act of Gender Equality in Employment' and 'Regulations for Establishing Measures of Prevention, Correction, Complaint and Punishment of Sexual Harassment at Workplace', we forwarded these cases to an internal sexual harassment complaint processing committee to conduct closed door investigations to protect the privacy of complainants. An agent was assigned by the committee to interview both the complainants and appellees, whose given statements were presented to the committee for a final decision on whether each case constituted sexual harassment.

Sexual harassment prevention is integral to promoting a healthy and gender-neutral work environment. In addition to carrying out awareness campaigns within our facilities and implementing thorough complaint and processing procedures, we have protective measures in place that give victims the proper care required. To increase the human rights awareness of all employees, we launched the multifaceted training programs of human rights. In 2023, all of our employees (174,677 person-times) completed a total of 145,562 hours of compulsory human rights training which covered the topics of RBA management, labor rights, gender equality and sexual harassment awareness.

Item	2023	2022	2021
Training Content	RBA management, Labor Rights, Gender Equality and Sexual Harassment Awareness		
Target Audience	All Employees (including New Employees)		
Training Hour (hour)	145,562	168,044	179,775
Training Person-times	174,677	184,588	198,603

Guidelines for Processing Sexual Harassment Complaints

Punishment

For cases that constitute sexual harassment, the committee shall issue a warning, disciplinary order, or another form of punishment to the offenders and require that they make an apology to the victims. Serious offenses may be grounds for dismissal.

Counseling

Victims' personal information shall be kept confidential. Victims may apply to transfer to another position as appropriate, or may receive enhanced counseling and care as needed from the HR department to facilitate their smooth return to the workplace.

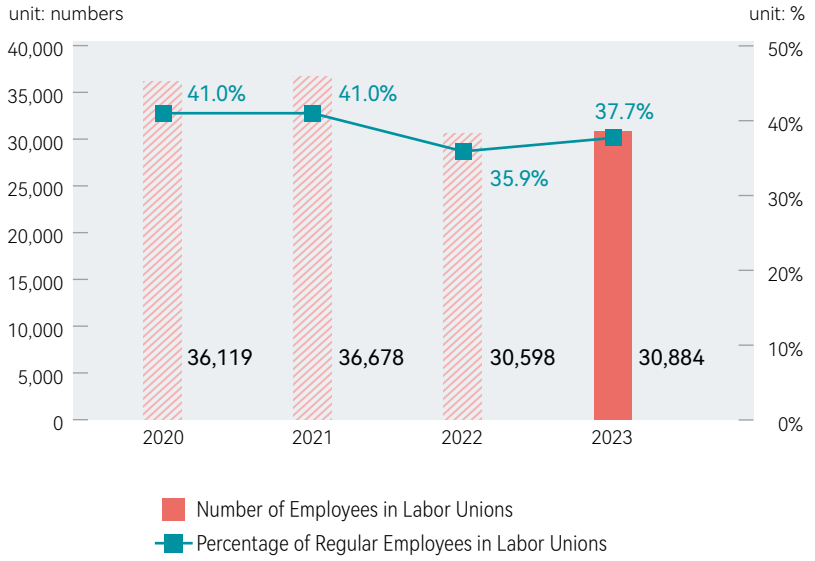
Remediation

Each case shall be reviewed to determine its cause, and offenders shall be tracked, reviewed and monitored to ensure the effectiveness of the disciplinary or counseling measures, and to prevent similar incidents or retaliation from occurring. The results of such processes will then be used as a reference for making adjustments to workplace environment and regulations.

Labor Unions

ASEH recognizes employees' right to freedom of assembly and association. As of the end of 2023, the total number of union members was 30,884, accounting for around 37.7% of all ASEH regular employees. Among the three ASEH subsidiaries, 19 facilities that have established a labor union – ASE facilities in Kaohsiung, Shanghai (Material), Wuxi, South Korea, Japan and Singapore; all of SPIL Facility; and USI facilities in Zhangjiang, Jinqiao, Huizhou, Kunshan and Mexico. Of these facilities, the labor unions of 8 facilities have signed a collective agreement[1] with the company and have regular meetings organized to discuss and resolve issues with employee representatives on employee benefits and the health and safety of the working environment.

Union Statistics

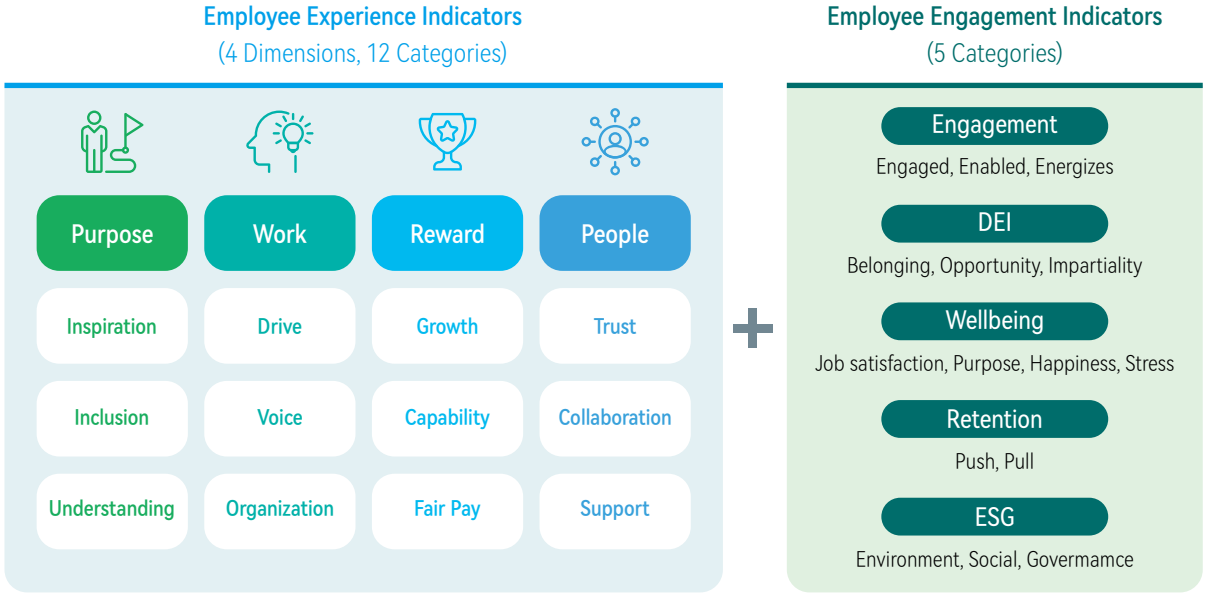


[1] The facilities that have signed a collective agreement are ASE facilities in Wuxi, Korea and Japan; SPIL's Suzhou Facility; and USI's Zhangjiang, Jinqiao, Kunshan and Mexico facilities. The total number of employees in the collective agreement account for 16.3% of all regular employees. The terms and conditions of employment for employees that did not participate in the collective agreement remain the same as others and their rights are unaffected

Employee Sustainability Engagement Surveys

Employees are ASEH's most valuable asset and strategic to the company's sustainability development and competitiveness. Maximizing the potential of our human capital to create value forms a key pillar of ASEH's sustainable development strategy. We began conducting the Employee Engagement Survey every two years since 2017, in 2021, we introduced a new survey framework that extended our focus to employee sustainability engagement.

In 2023, further adjustments were made to the employee engagement survey. The survey now includes Employee Experience Indicators and Employee Engagement Outcome Indicators. The Employee Experience Indicators cover four dimensions: "Purpose, Work, Reward, and People," and 12 categories. In addition to the existing three categories (Sustainability Engagement/Retention/ESG), two new categories (DEI, and Well-being) have been added to the Engagement Outcome Indicators. These categories are tailored for individual engagement surveys based on the different job attributes of direct and indirect employees. In 2023, the scope of the engagement survey is now expanded to all three major subsidiaries covering direct and indirect employees at 25 facilities in 9 countries, accounting for 95.1% (74,490) of total employees surveyed. Survey results indicated that employees demonstrated higher engagement in the categories of "ESG," "Collaboration," and "Understanding." Overall, the 2023 sustainability engagement survey recorded a score of 77%, exceeding the company's target of >75%. The next Employee Sustainability Engagement Survey will be administered in 2025.

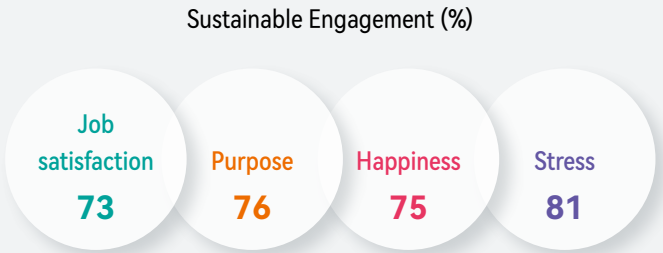


Employee Engagement Surveys Results

Category \ Year	2019 - 2020		2021 - 2022		2023		2025 Target
	Target	Result	Target	Result	Target	Result	
Engagement (%)	73	83	>75	79	>75	77	>75
Coverage[1] (%)	80	82.1	>85	96.1	>87%	95.1	>90

[1] Coverage = Actual number of employees surveyed/ Targeted number of employees to be surveyed

The employee engagement survey is an important tool for the company to understand the employee experience, and design strategies that attract and retain talent, and groom outstanding employees. In addition to conducting employee engagement surveys every two years, we also measure the four key dimensions of employee wellbeing developed by the University of Oxford's Wellbeing Research Centre: job satisfaction, happiness, stress and sense of purpose. A further analysis of employee productivity, retention rate, recruitment, and company performance, can help us to determine and formulate relevant strategies to improve the employee experience.



6.2 Talent Cultivation and Development

The innovative spirit, talent, and passion of employees are the driving force behind the company's sustainable operations. We therefore place great emphasis on improving the development and cultivation of talents in the fields of “management”, “technology” and “manufacturing”. In response to the organization's growth, we continue to invest resources into collaborations with management consulting companies and top universities, thereby increasing innovative momentum and maintaining our competitive edge in the industry.

Key Strategy of Talent Cultivation

Management — Development of Management Talent

- Leadership
- Communication
- Influence

We dedicated significant resources into creating management blueprints for leadership, communication and influencing skills. These courses will allow our management level employees to achieve self-growth and realize their potential, and in turn motivate team members to learn and grow, leading to the mutual creation of a valuable and meaningful career at ASEH.

Technology — Development for R&D Talent

- Innovation
- Problem Solving
- Centripetal Force

We have embedded in our corporate culture the key tenets of innovation, problem solving and the fostering of unity amongst colleagues. We also constructed an interdisciplinary professional technical platform, and formulated innovative blueprints on intelligent manufacturing and Heterogeneous Integration. Active collaboration with top universities combining theoretical and practical courses were also applied to various aspects of intelligent manufacturing processes, and enabled us to offer innovative solutions to customers.

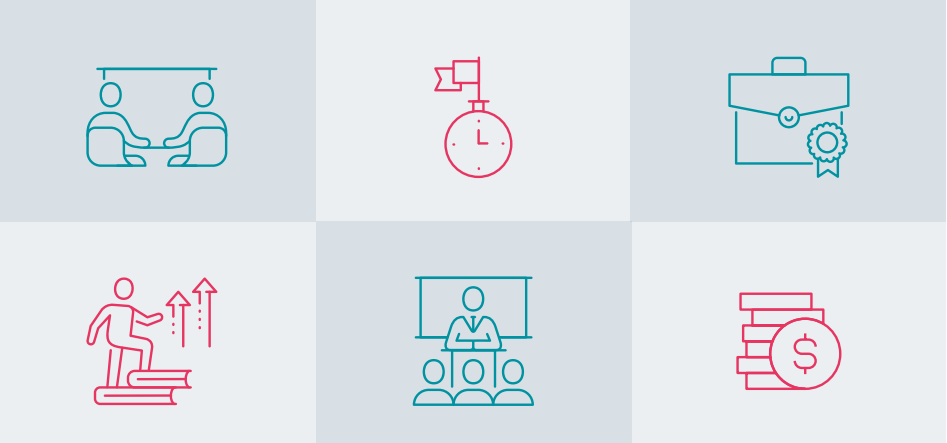
Manufacturing — Development for Production Line Employees

- Productivity
- Execution Power

We train and hone the skills for production line employees to increase productivity and make smart decisions that will maximize production utilization rates through flexibility and capacity deployment for high volume and high-mix/low-volume production.

ASEH is committed to the nurturing of talent through consolidating comprehensive and multifaceted courses and training resources for the creation of diverse training methods, including physical training, online courses, work practice, and external training, etc. In 2023, more than US$ 7.44 million training hours in total were completed, with each employee completing 89.7 hours of training on average. The total spent on training exceeded US$7.89 million, averaging around US$95 per employee and more than 5,400 internal lectureships. The company also encourages employees to further their studies on skills and knowledge in work-related fields by funding certified courses in work-related disciplines. In 2023, a total of 362 employees received a work related certification.

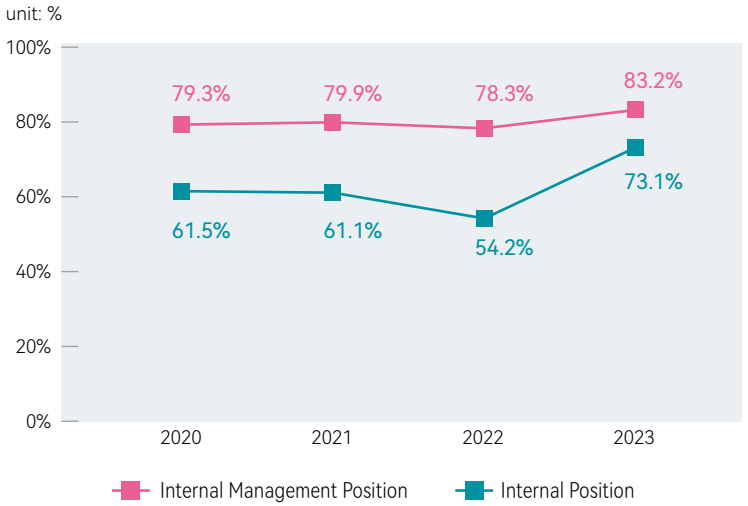
To foster an outstanding workforce, we are focused on building a pool of future talent that will turbocharge the company's growth engines. Through a systematic talent development mechanism, we provide comprehensive training for employees and encourage internal jobs rotation and transfers that add diverse values to their career planning. In 2023, 73% of the available job vacancies were fulfilled internally. We also focus on grooming employees for middle and senior management roles. Approximately 83% of the company's management ranks are internal promotions. We endeavor to create an environment that enables employees to maximize their potential and grow together with the company.



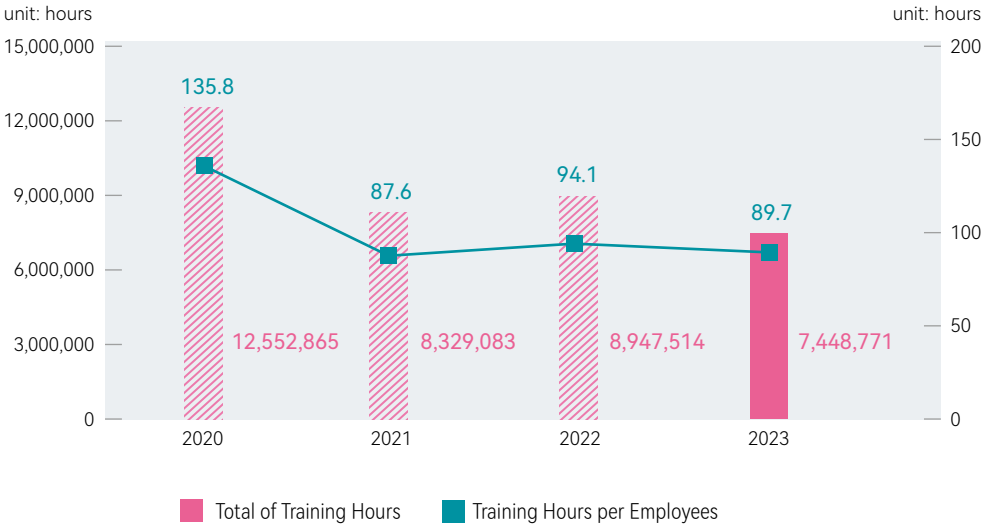
Training Index

Category	Group		Number	Training Hours per Employee
Training Hours (Hour)	Gender	Male	3,973,683	90.63
		Female	3,475,088	88.13
	Position	Management	485,280	79.10
		Engineering	2,688,117	97.59
		Administration	246,902	42.42
		Skill Job	4,028,473	92.03
Total			**7,448,771**	**89.7**

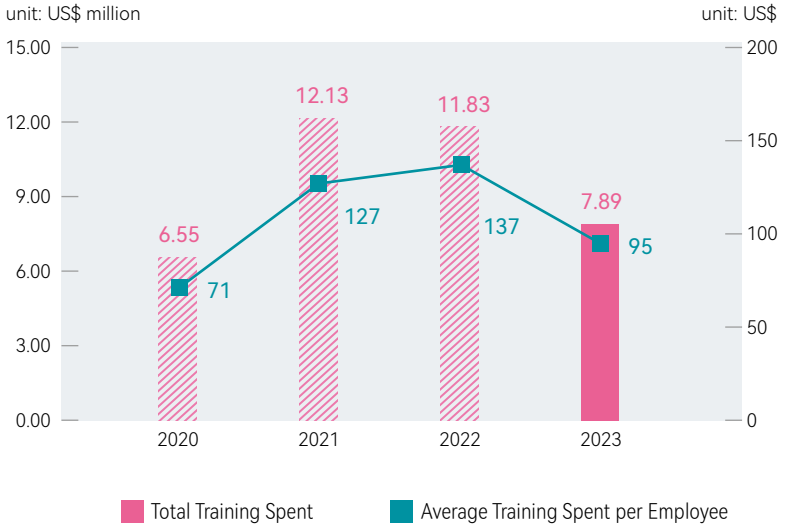
Internal Position and Internal Management Position



Training Hours

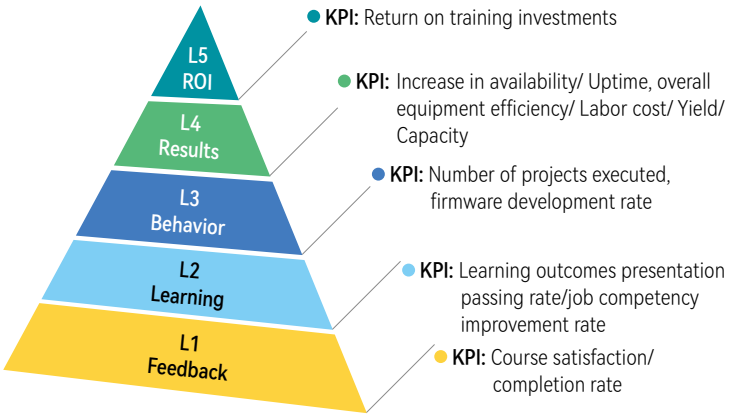


Training Spent



School of Smart Manufacturing

Training Program Efficiency Index



Program Title Smart Manufacturing and Digital Transformation

Course Outline

(1) Research, develop, and launch AI platforms to cultivate different levels of AI talents with differentiated learning content, and progressive learning.

(2) Build smart factories to improve operational productivity through exploring digital applications, developing 4IR robotic arms and automated material handling systems. Initiate special project presentations that integrate classroom theories with actual factory operations.

(3) Integrate factory operations to improve efficiencies and build a smart factory with automated rule-based business processes developed through software technologies, combined with hands-on practices after classes.

Post-training satisfaction rate: **4.45-4.63**
Course test passing rate: **81%-100%**
Self-developed robot programs: **5,228**
Digital and AI projects: **70**
AI Recognition Accuracy: Machine and Product Anomalies: **> 99.9%**
Smart Factory: **46**

Target Audience

R&D, manufacturing process, and equipment engineers

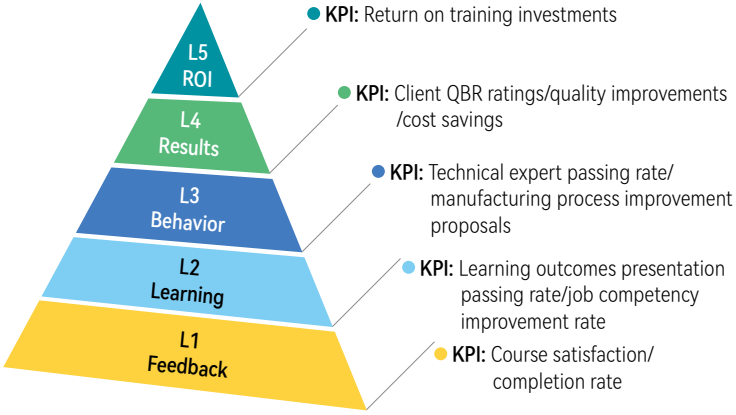
- Total of 8,956 employees involved training program (accounting for around 10.3% of all employees)

Operational Benefits

- Reduce external software purchasing costs
- Increase machinery availability/uptime
- Cut down on machinery inspection time
- Increase product yield
- Improve overall equipment efficiency
- Reducing Labor Costs
- Increasing Customer Satisfaction

School of Engineering Experts

Training Program Efficiency Index



Program Title Six Sigma Green Belt and Engineering Experts

Course Outline

(1) Improve analytical and problem solving skills through the 8D (Eight Disciplines Problem Solving) model. The model establishes corrective solutions based on the identification and statistical analysis of the root causes of abnormalities. The objective of the course is to help engineers improve product quality and yield, and avoid unnecessary waste.

(2) The Six Sigma green belt program seeks to improve customer experience and problem-solving of engineering anomalies. The training provides a thorough understanding of improvement initiatives in the manufacturing process, service delivery, on-time delivery and production efficiency. The course is aimed at enhancing overall teamwork and customer satisfaction.

(3) Ensure the integrity of problem analyses and solution evaluations with a 8D model to formulate and verify response measures in preventing the recurrence of similar problems.

(4) Examine the current situation with the IS/IS-NOT analysis and identify the root cause of technical and system anomalies with the 3x5 why technique to propose corresponding action plans for improvement.

Post-training satisfaction rate: **4.82**
Process abnormality rate: **Reduced to 0%** (offset occurrence rate, process failure rate)
Product Sealing Anomalies: **Reduced the number of weekly product sealing anomalies from 24 to 0**
Machine maintenance schedule and duration: **Reduced to 29.8%**
Customer audit passing rate: **100%**

Target Audience

Manufacturing process and equipment engineers

- Total of 1,327 employees involved training program (accounting for around 1.6% of all employees)

Operational Benefits

- Manufacturing process improvement proposals
- Technical experts
- Increase in process capability index (CPK)
- Quality improvements
- Increase in production capacity
- Cost savings
- Better ratings in customer quarterly business reviews (QBRs)

Key Highlight - "Dual Transformation: Digital x Sustainability" Development

The global wave of technology is driving growth across various industries. In particular, the rise of emerging technologies such as AI, 5G communication, and electric vehicles is fueling significant growth potential for the semiconductor industry. However, as the industry expand exponentially, human resource constraints have become the new norm. New challenges will also include the way we leverage AI, streamline and automate business processes to meet diverse market demands while continuously developing industry talent. To address an evolving digital landscape, net-zero challenges, talent transformations, and increasingly complex sustainability topics, ASE Kaohsiung has formulated an innovative and diverse strategy for training talent.

[Developing Technology Talent]

The AI surge has fueled the growth of intelligent automation in manufacturing, accelerating the development of technological capabilities and prompting various industries to deploy dedicated intelligent applications. Since 2013, ASE Kaohsiung has invested in nurturing talent for Computer-Integrated Manufacturing (CIM). In 2019, AI courses were developed to provide on-the-job training to employees, and operational efficiency was further enhanced through the integration of AI technology with production automation. As of 2023, over 700 employees have participated in the training program, with up to 50% (345) involved in advanced practical courses. Trainees apply their knowledge at work, utilizing automated storage and retrieval systems in warehousing and improve automation efficiency.

In addition, ASE Kaohsiung has established an Industrial Artificial Intelligence (IAI) platform as part of its digital transformation. This initiative accelerates the intelligentization of factories by fostering a favorable environment for AI learning across the entire facility and encouraging employees to undergo related certification courses. We have also incorporated techniques from industry-academic AI research to develop an AI model that help boost productivity and popularize AI, providing ASE with a competitive advantage. At ASE, we continue to establish innovative AI applications and forward looking technological collaborations, and invest in resources and software development that enable our employees to move up the value chain. Since our initiation of AI in 2018, we have established a total of 46 lights-out factories in Kaohsiung to date (end 2023). In 2022, ASE Kaohsiung's bumping facility was inducted into the World Economic Forum Global Lighthouse Network, becoming the world's first OSAT (Outsourced Semiconductor Assembly and Test) factory to receive this recognition.

[Cultivating Sustainable Talent]

To enhance employees' awareness of sustainable development, we conduct regular training courses annually on environmental issues, safety and health, human rights, and business ethics. Every employee is required to complete at least one hour of training annually to improve their knowledge of various sustainability topics. In 2023, we collaborated with the Taiwan Institute for Sustainable Energy (TAISE) to establish a Corporate Sustainability Manager Certification Training Program. 63 employees across 12 departments accumulated a total of 80 hours of training from attending the program. The program equips employees with an international perspective and a solid understanding of sustainability, establishing it as common language within the company and broadening the positive impact on sustainability.

6.3 Occupational Health and Safety

ASEH is committed to providing workers with a safe, healthy, and conducive work environment. To ensure the health and safety of employees, and prevent accidents at the workplace, we have formulated comprehensive procedures for managing occupational health and safety ("OHS"). The main focuses of ASEH's OHS Management include the "Management System" and "Healthy Workplace".

Management System

ASEH is committed to strict compliance with local regulations and international standards such as ISO 45001 Occupational Health and Safety Management System[1] and the RBA Code of Conduct. To further improve the management standards of our health and safety performance, ASEH's subsidiaries have established site management organizations, management policies and procedures, and regular internal audit processes. ASEH employs the PDCA model as an approach to prevent all incidents and achieve the management goal of "zero accident."

The OHS Committees at ASEH's worldwide facilities are tasked to keep abreast of local regulatory updates and evaluate internal policies, emergency response and environmental safety procedures, so as to ensure compliance with applicable laws and regulations. On an annual basis, we perform hazard identification and risk assessment procedures on the work environment, facility, equipment and services, to determine risk levels and devise appropriate management plans based on severity of hazard, frequency of occurrence and incidence rate. For high-risk work environments, immediate risk control measures are put in place to reduce risks. In addition, we identify higher-risk operating environments within our facilities such as locations that could expose employees to ionizing radiation, noise, dangerous chemicals and dust, and provide such employees with high quality protective equipment and regular health examinations to monitor their health.

[1] ISO 45001: ASE (Kaohsiung, Chungli, Shanghai (Material), Wuxi, Korea and Singapore), SPIL (Da Fong, Chung Shan, Zhong Ke, Zhong Ke II, Hsinchu, Changhua, Zhong Gong and Suzhou), USI (Taiwan, Zhangjiang, Kunshan, Jinqiao, Huizhou, Mexico and Vietnam), the management system includes all worker in the facilities

Safety and Health Regulations	Develop workplace safety and health management systems and standard operating procedures in compliance with ISO 45001, RBA Code of Conduct, and local laws and regulations.
Safety and Health Training	We utilize diverse training methods and workplace safety and health educational training in the local language of workers. The training and education include online courses, physical training, and external workshops. Additionally, we create educational materials and videos to communicate safety regulations and guidelines to employees. We also conduct internal safety campaigns regularly. In 2023, a total of 290,012 hours of safety training were provided, reaching 248,872 participants.
Procurement Management	We adopted the ISO 45001 management framework to formulate relevant procurement regulations in accordance with workplace safety and health regulations, targeting raw material, equipment, and engineering suppliers/contractors to establish regulations related to safety, health and environmental practices. • **Raw Material Suppliers:** For the first time procurement of chemicals or in the case of any changes, the unit managing the chemical material must counter approve. All procured materials must comply with the local safety and environment regulations. • **Engineering Contractors:** Contractors undertaking high risk work must obtain the ISO 45001 certification.
Risk Identification and Assessment	To analyze the potential source of hazards and the underlying impact on the activities, products and services produced at each facility, we established a hazard identification and risk assessment system. Every year, we conduct hazard identification on the physical, chemical, human, biological and psychological factors that may lead to workplace accidents and illnesses. We categorize risks according to their severity and frequency, and analyze the possible hazards to the work environment that may affect employees and implement the appropriate preventive measures. If an unacceptably high risk is identified upon the assessment, improvement and regulation measures are carried out to ensure workplace health and safety.
Internal and External Audit	To ensure the safety of workers and facility, we verify and assess each facility's management system and processes by conducting an internal audit. On-site inspections are conducted to evaluate the effectiveness of internal audit processes within the factory premises. Detected deficiencies are added into the internal management system for monitoring and the audited unit is required to propose improvement measures. These approaches are taken to gain a better understanding of the root causes of non-compliance issues, strive for continuous improvement, and ensure compliance with the requirements of the ISO 45001 framework. In 2023, 903 internal audits were undertaken across all facilities, resulting in the identification of approximately 3,000 non-conformances in areas such as fire safety, equipment safety, chemical management, and emergency response. All non-conformances were addressed within the timeframe indicated. We quickly discovered shortcomings and possible risks using the internal audit system and applied corrective measures to improve operational safety.
Accident Prevention and Reoccurrence	We developed effective improvement measures and implemented them across all sites, based on the identification of the root causes of incidents. We also review and make adjustments according to the outcomes of hazard identification and risk assessments to prevent the reoccurrence of accidents at the source.
Disaster Response and Emergency Drills	All of our manufacturing facilities have developed disaster response and recovery plans and conducted full-scale emergency drills annually in cooperation with the local authorities. Various scenarios are simulated at these drills to improve our disaster response plans. In 2023, we completed 379 drills for earthquakes, fire and chemical disasters.

Key Highlight: White Paper on Assembly and Testing Equipment Safety

As a people-centric organization, ASEH strives to provide its employees a safe, secure and healthy workplace environment and is actively building a workplace safety culture. Data have shown that workplace accidents in the manufacturing industry are most frequently associated with equipment operations. As such, ASE Kaohsiung, ASE Chungli and SPIL initiated the creation of a white paper on semiconductor assembly and testing equipment safety with the local government, academia and industry peers. The effort was made to highlight the importance of equipment operation and safety, and provide recommendations and solutions for companies to enhance their management responses and measures to prevent accidents. The white paper is a concerted effort of the industry to collaborate on workplace safety and health, and promote a common industry standard for the semiconductor assembly and test industry to adopt.

The white paper emphasizes source management and incorporates three aspects: man, machine, environment. Highlighting prevention, early warning and responses, the white paper introduces the fundamental safety design of the equipment, details the prevention of human-induced accidents, and identifies and analyzes factors that might contribute to the occurrence of accidents. The scope of preventative measures covers equipment operation and setup, disaster prevention, source design, usage guidelines, securing machinery source management and ensuring operators' safety and health. Regulators, the academia and industry partners are invited to jointly review the content to ensure compliance with the applicable common and foundational standards for the semiconductor assembly and testing industry. The white paper is to be finalized and officially published in 2023.

We will incorporate equipment safety standards as part of our procurement specifications to be reviewed before purchasing. The delivered equipment will then undergo a safety acceptance process before it is being cleared for use in the production line. Stepping up the standards of equipment safety will help ensure a high quality, safe and healthy workplace for everyone in the company.

Occupational Injury Management

Occupational injury and incident reporting and investigation procedures are firmly established at all ASEH facilities. When an occupational injury incident occurs, standard operating procedures shall be followed and reported to local authorities in accordance with the management policy and local regulations, while injury incidents are reviewed regularly to improve preventive measures. Each subsidiary manages the statistical analysis of occupational injuries using the major indicators published by the Ministry of Labor and the Global Standards for Sustainability Reporting (GRI Standards) - Disabling Injury Frequency Rate (FR) and Disabling Injury Severity Rate (SR) are key measurements but the statistics do not include traffic accidents. There were 124 incidents of occupational injuries in 2023, amounting to 3,327 lost working days. Physical injuries had the highest proportion out of all incidents, followed by ergonomic injuries caused by human factors and chemical injuries. ASEH recorded a total of 28 cases of occupational disease, which occurred at ASE Malaysia and there do not have any death case due to occupational disease. For more information, please refer to the 「Appendix-M. Workers Occupational Health and Safety」

Occupational Disease

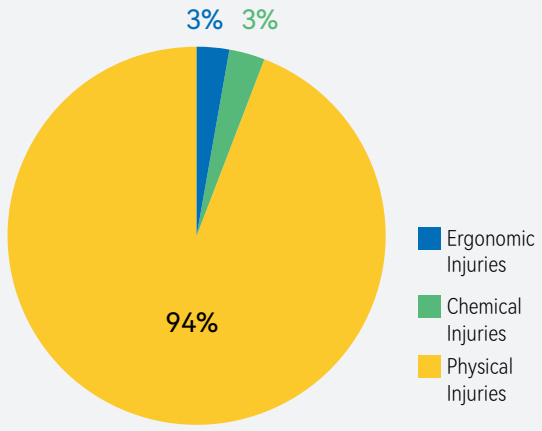
A total of 28 occupational disease incidents involving hearing loss caused by machine operation, occurred were reported at ASE Malaysia. Immediate actions were taken to redeploy the affected workers and follow up on their health condition regularly. Sound proofing systems were also installed in the machines to further reduce the noise levels.

Occupational Injury Statistics

Category	2023	
	Male	Female
Number of Occupational Injury Accidents	58	66
Injury Rate[1]	0.13	0.16
Disabling Injury Frequency Rate (FR)[2]	0.63	0.82
Disabling Injury Severity Rate (SR)[3]	16.74	22.34

[1] Injury Rate = (total number of injuries×200,000) / total hours worked, excluding traffic accidents
[2] Disabling Injury Frequency Rate (FR) = (total number of disabling injuries ×1,000,000) / total hours worked
[3] Disabling Injury Severity Rate (SR) = (disabling injury work loss days× 1,000,000) / total hours worked

Occupational Injury Category in 2023



Occupational Injuries and Improvement Measures in 2023

Physical Injuries

Causes:
(1) Falls/Slips
(2) Caught in/Between objects
(3) Cuts/Bruises

Improvement Measures:
(1) Strengthen communication (videos, warning signs)
(2) Increase adequate machine safeguards
(3) Formulate relevant protocols and standard operating procedures (SOP)
(4) Personnel education and training
(5) Wearing of protective equipment

Chemical Injuries

Causes:
Spraying of chemicals

Improvement Measures:
(1) Formulate relevant protocols and standard operating procedures (SOP)
(2) Personnel education and training
(3) Increase notices on the use of protective equipment

Ergonomic Injuries

Causes:
Poor posture when carrying items, resulting in muscle strain

Improvement Measures:
(1) Formulate relevant protocols and standard operating procedures (SOP)
(2) Personnel education and training
(3) Auxiliary equipment

Accident Reporting and Investigation Process

Accident Occurrence	Reporting	Investigation	Improvement	Prevention of Recurrence
	1. After an accident occurred, report it to the unit supervisor and workplace safety staff at the facility site. Meanwhile, help the injured with medical treatment and facilitate the process of hospitalizing them. 2. If an employee identifies an immediate danger in the workplace or while performing their duties, they have the right to stop working and move to a safe location without endangering the safety of others. The company will not take any disciplinary action in such cases.	1. After the occurrence of the accident, temporary measures are initiated immediately 2. Units where the accident happened and the workplace safety unit will form an investigation and improvement team, and initiate an analysis of the causes of the accident.	Initiate improvement actions targeting the cause of the accident	After the analysis, formulate effective improvement measures based on the root cause of the accident. The measures will be implemented in each subsidiary/facility site to ensure improvements in dealing with similar situations and prevent the reoccurrence of similar accidents

Employee Health and Safety Protection

Since the onset of the Covid-19 outbreak in 2020, ASEH has proactively responded with robust measures to protect the health of its employees. All employees are required to wear medical masks before entering ASEH facilities. To ensure adequate access to masks, we have constructed a Class 100K cleanroom to produce medical grade masks that meet regulatory health standards. The cleanroom is equipped with particle measuring systems (PMS) to maintain a clean production environment. Our production line is fully automated and uses less packaging materials allowing us to be more efficient and sustainable. For the safety of employees on the production floor, we have retrofitted our machines with a safety device and modified the dust collector to reduce noise and vibration. Our mask line was granted a medical device license from the Ministry of Health and Welfare. Since the beginning of mass production in 2020, we have been providing a variety of high quality masks to nearly 60,000 ASEH employees, and will continue to produce enough free masks for the needs of every employee. ASEH's mask production is a part of our comprehensive employee care plan andpandemic preventive measures to counter the adversity of the prolonged epidemic.

In addition to producing medical masks inhouse, we have also made an investment in Ainos Inc., a manufacturer of rapid COVID-19 detection kits. In our continued fight against Covid-19 and the protection of our employees and their families, ASEH has procured Ainos rapid detection kits to be distributed free of charge to employees.

Building a Healthy Workplace

The physical and mental well-being of our employees are central to organizational stability and the company has developed a multifaceted mechanism that covers health management, health promotion, employee assistance programs and community care. To better manage our employees' health and wellbeing, we employ 4 basic principles; health examinations, risk tracking, mitigation actions, and health protection. High risk health issues are identified from employees' health screening results. The company has also established a healthcare structure based on risk levels, and through consultations with occupational nurses and specialist referrals, provide work adjustments and promote weight loss programs. At ASE Kaohsiung, the facility has a care program that comprises employee volunteers that serve as seed caregivers for the early detection of symptoms and support.

The company greatly promotes the prevention of occupational illness due to abnormal workloads by addressing concerns about employee workloads and stress. Health check-ups and assessments of personal, job and overtime work help to identify high-risk and high-stress individuals who would benefit from time management and counseling. Regular reports are also provided to the Occupational Safety and Health Committee.

Health Management Principles

Health Examinations	Risk Tracking	Mitigation Actions	Health Protection
Conduct employee health screenings, analyze and evaluate results, and manage health data.	Track risks, care for employees with abnormal health screening results, formulate improvement plans based on analysis.	Plan and provide health education, hygiene guides, and wellbeing protection; promote weight loss programs, workshops, advocacy, and first aid training.	Preventive plans for ergonomic hazards, illnesses from excessive workload and wrongful harm, and maternal health protection plans.

Health Risk Management Process

Health Risk Levels	Management Measures	Improvement Plans	2022	2023	Key Health Risk	Key Health Promotion Programs in 2023
Level 1	Provide doctors' recommendations from health checkups and encourage regular self-tracking.	• Manage work hours • Encourage participation in health promotion activities	52.9%	29.6%	• Abnormal body mass index (BMI) • High blood sugar • High blood lipids	• Weight loss competition using a fitness app • Smoking cessation advocacy and competition • Crafting diverse activities promoting healthy lifestyles
Level 2						
Level 3	Occupational nurses conduct consultations based on the level of care, and decide if specialist referrals or work adjustments are necessary.		33.4%	51.8%		
Level 4			13.5%	18.5%		

Key Highlight – Creating a Diverse and Healthy Workplace to Safeguard Employees' Health

The World Health Organization (WHO) considers the workplace a prioritized setting for health promotion. The promotion of a healthy workplace is an important topic for every company as employees spend over a third of their day in the workplace. According to the 2023 health screening records at ASE Kaohsiung, 35% of employees are obese, 19% were diagnosed with metabolic syndrome, and 18% are smokers. At ASE Kaohsiung, employees are encouraged to participate in meaningful and diverse activities organized by the company to promote employee health amidst busy work schedules, and enhance their overall well-being.

[Tobacco Control]

In 2023, ASE Kaohsiung produced a 'smoking cessation' video that featured senior executives who were ex-smokers. Through the sharing of their personal experiences, the video hopes to inspire employees to quit the habit. In addition to conducting cessation courses annually, the company also published e-newsletters and provided on-site cessation support. The cessation courses were linked with the Ministry of Health and Welfare's Quit to Win competition, motivating employees to quit smoking. To prevent relapse and help employees quit smoking successfully, follow-up CO testing and tracking were also conducted.

In 2023, the e-newsletter on smoking cessation was viewed 6,036 times, a 61% success rate was recorded among course participants, on-site cessation support reached out to 1,120 employees while oral mucosal screening rates increased by 14%.

[Obesity and Metabolic Syndrome]

To strengthen employee health awareness and promote healthy behavior, ASE Kaohsiung introduced a sports app in 2023. Employees can select appropriate exercise programs and train at home or outdoor, and use the app to monitor calorie consumption and track reduction in carbon emissions.

[Health Education Activities]

ASE Kaohsiung organizes monthly health promotion activities and health challenge games around the premises. Health education provided by healthcare professionals and practical exercises serve to deepen employees' knowledge as well as integrate wellness practices into their daily lives. The activities include (1) Understanding stress sources - stress relief activities, (2) First aid - emergency rescue notification procedures, (3) Protecting our lungs - lung exercises for healthy lungs, (4) Creating healthy meal plates - color code food labels, and (5) Avoiding physical discomfort – practicing correct ergonomics posture and others.

Gym - **5** gyms Group Courses - **1,500** engagements Social Clubs - **30** clubs

Physical Health

- **Establishing massage facilities and gyms:** To encourage our employees to exercise regularly, we work with professional trainers to develop a range of classes including spinning, yoga and zumba. These group classes not only help employees maintain a healthy physical and mental well-being, but also facilitate interactions and bonding between coworkers.
- **Social clubs:** These clubs organize a wide variety of activities including sporting events, outdoor activities, indoor cardio sports, arts and crafts, and community service. In particular, ASE Kaohsiung factory has a foreign employee club.
- **Competitions and Activities:** Through various types of sports clubs and competitions, we cultivate employees' interests and encourage good exercise habits, that help strike a balance between work, physical and mental well-being. For example, ASE Kaohsiung organized 9 annual sports competitions and other major club activities in 2023, including running and walking events that attracted more than 5,000 participants.

Mental Health

- **Employee counsellors:** Beginning in 2017, ASE Kaohsiung rolled out a seeding program to recruit employees as volunteer counsellors to recognize warning signs of mental health issues and establish front-line support to employees exhibiting symptoms. We have completed 3 sessions of the seeding program, training a total of 95 employees and supporting more than 450 colleagues. In 2023, we organized five counselor alumni days to enhance empathy and support skills through experiential learning in emotional awareness, fostering unity among employee counselors and improving their caregiving capabilities.
- **Stress-relieve center:** Employees can access the center with complete privacy to seek professional counselling.

Health Screening - **59,949** people Expenditure of **US$ 3.27** million

Health Management

- Free periodic health screening for all employees and retired employees
- Health screening for employees working in special conditions
- Follow-up consultancy on anomalies discovered through health screening and providing medical advice
- Employees' clinic: ASE Kaohsiung has partnered with a local hospital to establish an employees' clinic

Health Promotion

- Specialist clinics covering general medicine, cardiology, mental health, weight loss, smoking cessation, vaccination and cancer screening etc
- Breastfeeding rooms and courses for new parent
- Lectures and health education promotion, sports

Community Care

- Smart mobile clinic that serves remote areas
- Conducting active-ageing activities and courses for seniors in the community
- The ASE Kaohsiung employees' clinic is also open to the neighboring community, friends and relatives of employees and our customers

Contractor Operation Safety Management

ASEH facilities have established contractor management policies to ensure that safety protocols are observed when contractors work at our facilities and to achieve the target of zero contractor occupational injuries. Eight high-risk types of operations at ASEH's facilities were identified which include work on pipelines, flammable sources, work inside confined spaces, live-line, crane operations, elevated operations, chemical filling and roof works, for which stricter SOPs were instituted. Additionally, ASEH will continue to request contractors conducting high-risk operations to meet the requirements specified in the ISO 45001 management systems.

Contractors in-plant Construction Procedures

1. Contractors presenting operation safety management proposals
2. Training personnel who enter the plant and informing them of likely hazards
3. Performing periodic patrol inspection according to the safety checklists for before, during and after construction
4. Filing the project closure report for record

RESPONSIBLE PROCUREMENT

The supply chain plays a critical role in maintaining and boosting our competitive advantage. We believe in developing mutually beneficial partnerships with our suppliers, and supporting one another to achieve common sustainability goals. Our comprehensive and sustainable supply chain framework ensures an environmentally responsible supply chain that complies fully with business ethics, and supports a safe and healthy working environment by respecting employee and labor rights.

Sustainable development across the supply chain is an important tenet of our corporate strategy, and the company's board of directors has been designated the highest decision-making body for supply chain management. The board regularly reviews sustainability-related practices and performance, formulates strategies, and actively develops supplier capabilities to build a more resilient, diverse and sustainable value chain.

2023

Key Performance

201 Suppliers	↑ 760 Suppliers	389 Suppliers	100%
Supplier Sustainability Physical Assessment	Non Tier-1 Suppliers Management	Conflict Minerals Suppliers' Survey	DRC Conflict-Free Products

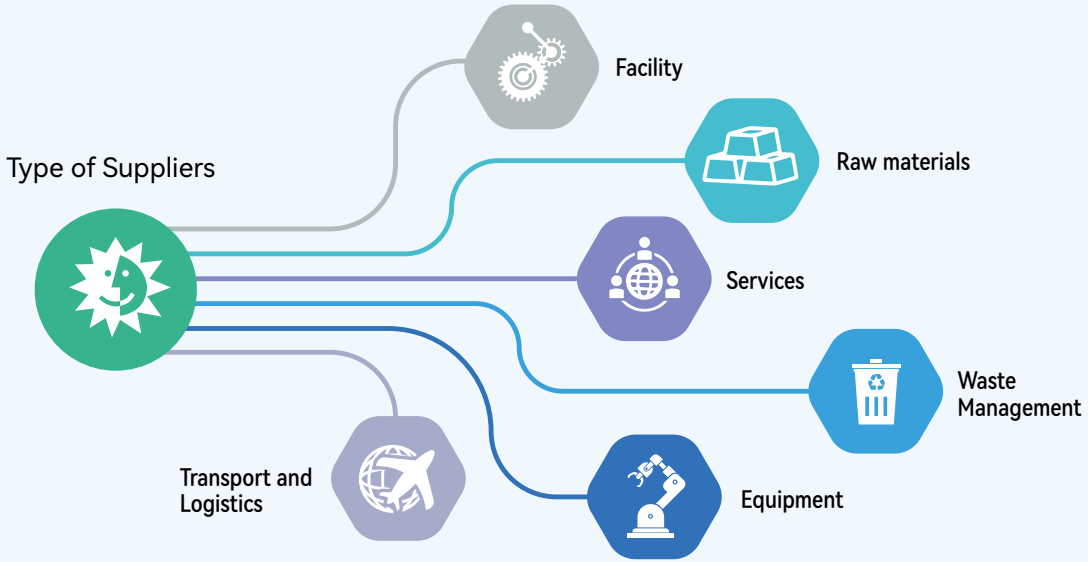
SDGs	Business Actions	2023 Material Aspects	KPI	2023 Target	Status	2023 Performance	2024 Target	2030 Target
4 QUALITY EDUCATION, 8 DECENT WORK AND ECONOMIC GROWTH	Ensure that all employees across the business and supply chain earn a wage that allows them to support the education of their dependents and ensure that there is zero child labor.	Sustainable supply chain	DRC Conflict-Free Product Lines of Packaging and Material Services (%)	100%	Achieved	100%	100%	100%
			DRC Conflict-Free Product Lines of Electronic Manufacturing Services (%)	100%	Achieved	100%	100%	100%
			Number of Supplier Sustainability On-site Assessment[1]	100	Achieved	201	100	100
			Critical Material Suppliers Completing RBA SAQ (%)	90%	Not Achieved	86.1%	90%	100%
			Non Tier-1 Suppliers Conduct Risk Assessment (by Tier-1 procurement amount) (%)	>50%	Not Achieved	46.3%	>50%	>50%
13 CLIMATE ACTION	Substantially reduce emissions from our supply chain and our operations, in alignment with climate science.		Critical Suppliers[2] Obtaining ISO 14064-1 Certification (%)	78%	Not Achieved	63%	80%	100%

[1] On-site Assessment includes remote audit, on-site audit, RBA VAP and independent 3rd-party audit
[2] The definition of critical supplier as follow: (1) Top 85% of direct material purchasing amount, (2) Indirect material suppliers refer to those with a purchase spending of over US$2 million with ATM; purchase spending of over US$1 million with EMS, (3) Single source or non-substitutable suppliers. In 2023, there are a total of 145 critical suppliers

7.1 Supply Chain Overview

As a global leader in semiconductor assembly and testing services as well as a key systems and core technology integrator, ASEH primarily provides assembly, testing and material (ATM) services and electronics manufacturing services (EMS). With an aim to continuously elevate customer trust, we strengthen our service globally by providing manufacture base throughout Taiwan, China, Japan, South Korea, Malaysia, Singapore, Vietnam, the U.S.A. and Mexico. Our procurement is classified into raw materials, equipment, facility, engineering, waste management services, transport, logistics and subcontract services. We require all our suppliers to strictly follow the Supplier Code of Conduct and the company's risk assessment policies.

The supply of raw materials has the most direct impact on ASEH's day-to-day operations and manufacturing. Raw material suppliers are classified into two categories according to their attributes; direct material suppliers (suppliers of materials directly related to manufacturing) and indirect/packaging material suppliers (suppliers of packaging materials or materials indirectly related to manufacturing). To enhance supply chain resilience, we have established different levels of requirements and management policies according to the grade of importance of each operation.



To ensure efficient resource allocation, we place a high level of focus on raw material suppliers that we conduct business with on a regular basis. As such, we classify suppliers where our annual procurement spend is in excess of a certain value and continuous engagement as Tier-1 suppliers[1], and subject them to more extensive management supervision. We also subject suppliers with major infractions or significant incidences that impact operations to a closer level of management supervision and guidance and identify as significant suppliers[2]. Our scope of risk management was also expanded to non Tier-1 suppliers. There are currently over 760 non Tier-1 suppliers which accounted for 46.3% of Tier-1 supplier's total procurement amount.

Initial risk assessments were conducted on non Tier-1 suppliers by geographic locations as well as material type. Together with the analysis of the business relationship with Tier-1 suppliers, major incident records, and potential risk impacts, 259 non Tier-1 significant suppliers[3] were identified. ASEH shall continue to monitor our suppliers' performance closely, and pursue greater risk control measures.

[1] The definition of Tier-1 supplier as follow: Annual procurement spend of over US$0.2 million with 2 consecutive years of business with ASEH. In 2023, there are a total of 818 Tier-1 suppliers
[2] The definition of significant supplier as follow: Includes critical supplier (i) Top 85% of direct material purchasing amount, (ii) Indirect material suppliers refer to those with a purchasing spending over US$2 million with ATM; purchasing spending over US$1 million with EMS, (iii) Single source or non-substitutable suppliers or high-risk suppliers (1) Major incidents or violations, (2) Potential ESG risk impacts. In 2023, there are a total of 215 significant suppliers which accounted for 86.6% of total purchasing amount in ASEH
[3] The definition of non Tier-1 significant supplier as follow: (1) Supply to Tier-1 significant suppliers, (2) Supply to Tier-1 direct materials suppliers who ASE spend over 10 million USD/year, (3) Major incidents or violations, (4) Potential ESG risk impacts. In 2023, there are a total of 259 non Tier-1 significant suppliers

Tier-1 Significant Supplier

Critical Supplier

(1) Top 85% of direct material purchasing amount
(2) Indirect material suppliers refer to those with a purchasing spending over US$2 million with ATM; purchasing spending over US$1 million with EMS
(3) Single source or non-substitutable suppliers

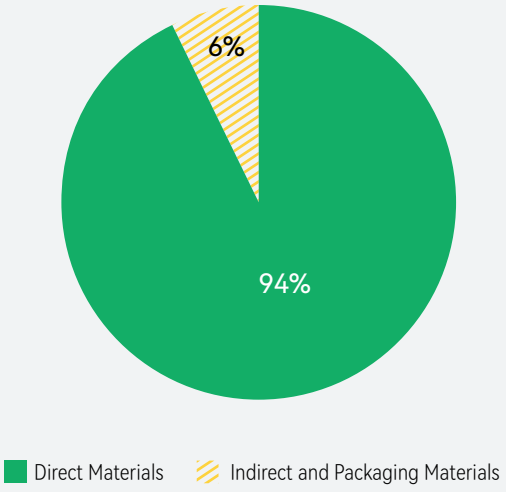
+

High-Risk Supplier

(1) Major incidents or violation record
(2) Potential ESG risk impacts (Environmental: hazardous substance management; Social: child labor, forced labor; Governance: corruption, bribery or supply disruption risk)

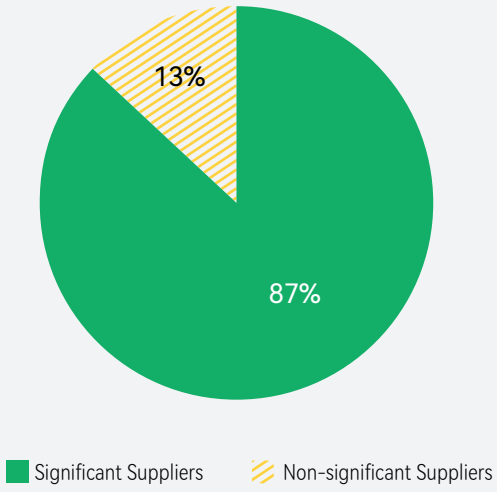
2023 Raw Materials Supplier Category

(by Annual Procurement Amount)



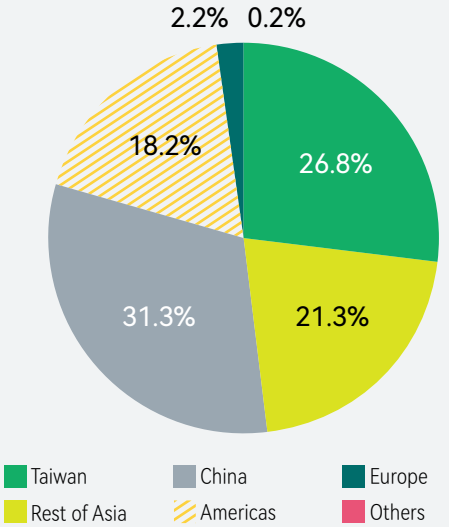
2023 Significant and Non-Significant Supplier Distribution

(by Annual Procurement Amount)



2023 Raw Material Supplier Distribution Area

(by Annual Procurement Amount)



7.2 Supply Chain Management Framework

Supply Chain Management Organization

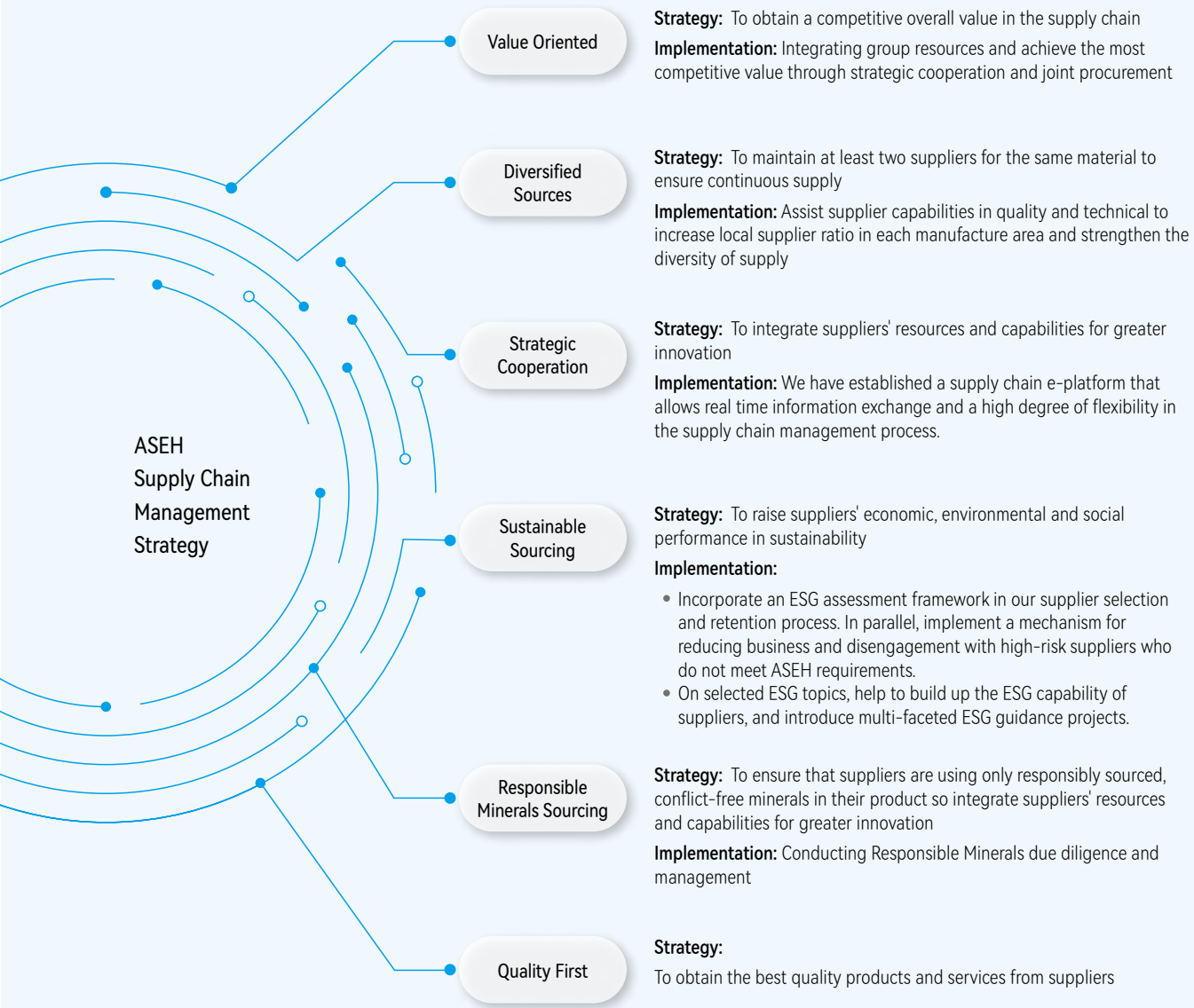
The supply chain plays an indispensable role in ASEH's corporate sustainability development. The ASEH board of directors is the highest decision making body of our supply chain management, and is responsible for endorsing key strategies and execution plans. To further our sustainability goals, the Corporate Sustainability Committee was established to plan and supervise the company's sustainability management, submit progress and status reports to the board of directors, and establish the sustainability management policies and goals of the three subsidiaries. The ASEH board of directors has approved the creation of a chief procurement officer position and appointed Mr. Andrew Tang, a member of the board, to execute the company's supply chain strategies, and oversee the progress and execution of major initiatives. Each of the three major subsidiaries under ASEH has a supply chain team that formulates supply chain sustainability management strategies, set medium- to long-term management goals and action plans, assess ESG issues and risks related to supply chain management, and provide necessary support, advocacy, and training as part of the team's day-to-day management.

Purchasing and Supply Chain Development Policy

The ASEH corporate purchasing and supply chain development policy is published on our official website. We are committed to working closely with our suppliers to innovate and develop sustainable technologies that enable us to offer high-quality products and services to our customers. Please visit: https://www.aseglobal.com/en/pdf/2019_aseth_purchasingandsupplychain developmentpolicy.pdf

Supply Chain Management Strategy

ASEH is committed to building solid supplier relationships and engaging in responsible procurement practices. While cost and quality are primary factors influencing our procurement decisions, we place an equally high emphasis on the overall sustainable value provided by the supply chain. We actively address emerging sustainability issues and risks in the supply chain, develop detailed management strategies, implement them through realistic action plans, and conduct dynamic and timely risk and opportunity assessments. In recent years, we have designed innovative programs that encourage supplier collaboration on sustainability topics. This further strengthens supplier resilience and collaboration for a win-win ecosystem.



Strategy: To obtain a competitive overall value in the supply chain

Implementation: Integrating group resources and achieve the most competitive value through strategic cooperation and joint procurement

Strategy: To maintain at least two suppliers for the same material to ensure continuous supply

Implementation: Assist supplier capabilities in quality and technical to increase local supplier ratio in each manufacture area and strengthen the diversity of supply

Strategy: To integrate suppliers' resources and capabilities for greater innovation

Implementation: We have established a supply chain e-platform that allows real time information exchange and a high degree of flexibility in the supply chain management process.

Strategy: To raise suppliers' economic, environmental and social performance in sustainability

Implementation:

- Incorporate an ESG assessment framework in our supplier selection and retention process. In parallel, implement a mechanism for reducing business and disengagement with high-risk suppliers who do not meet ASEH requirements.
- On selected ESG topics, help to build up the ESG capability of suppliers, and introduce multi-faceted ESG guidance projects.

Strategy: To ensure that suppliers are using only responsibly sourced, conflict-free minerals in their product so integrate suppliers' resources and capabilities for greater innovation

Implementation: Conducting Responsible Minerals due diligence and management

Strategy:

To obtain the best quality products and services from suppliers

Enhancing Sustainability in Procurement through Education and Training

To improve the skillsets of our procurement teams at each subsidiary, we conduct systematic training that aims to increase the teams' sustainability awareness. This ensures that the teams have a deeper understanding of the company's yearly supply chain sustainability goals as well as effectively execute ASEH's procurement and supply chain development policies and strategies. The internal trainings instill the importance of sustainability in corporate procurement, and team interactions allow procurement teams from different entities to exchange ideas and foster a corporate culture of sustainability.

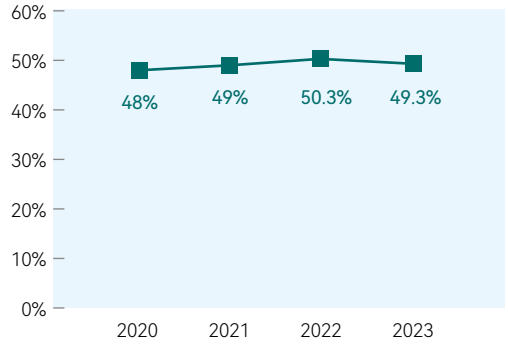
2023 procurement education and training focus:

- Sustainable supply chain management procedure
- Sustainable supply chain management: objectives and performance
- ASEH's net-zero commitment and supply chain engagement strategy
- Conflict minerals management system

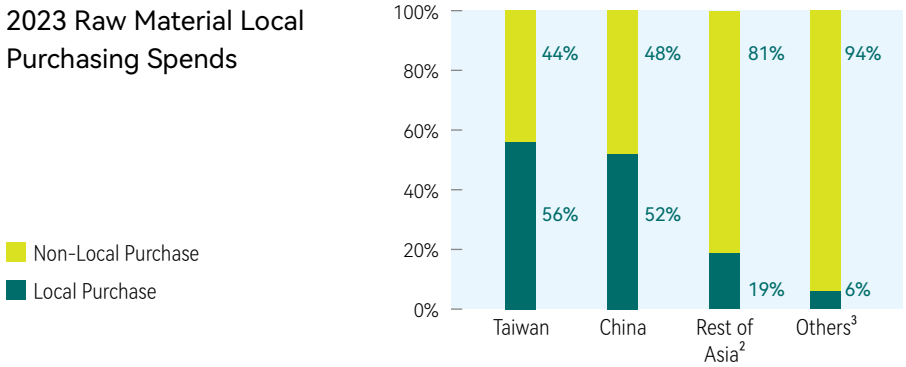
Supporting Local Suppliers[1]

In 2023, procurement from local suppliers is accounted for approximately 49.3% of our total procurement amount while local procurement is account for 56% in main operation base, Taiwan. The close collaboration between ASEH and its local suppliers help to boost product quality and technological capabilities. Besides lowering carbon emissions and creating more job opportunities within the domestic market, local procurement also provides cost advantages and a shorter cycle time. Overall, a robust local procurement strategy contributes to the advancement of a highly efficient and competitive semiconductor industry chain.

Local Purchasing Spends (%)



2023 Raw Material Local Purchasing Spends



[1] Local supplier refers to the supplier's register location is located at the same country where our manufacturing facility is located. For example, if the supplier's factory is registered in Taiwan, it is regarded as local procurement for ASEH's Taiwan
[2] Rest of Asia: Japan, South Korea, Malaysia, Singapore and Vietnam
[3] Others: America and Mexico

7.3 Supply Chain Sustainability Management

ASEH is committed to become an advocator and an action maker with regard to corporate sustainability issues. Since 2015, ASEH has joined RBA and proactively participated in relevant conferences and training courses. ASEH adopts the RBA Code of Conduct in the management of labor, environment and ethics. ASEH also applies the code to its supply chain management to ensure the provision of a safe work environment, respect for workers, environmental protection, ethical conduct and actively applied to sustainability management in supply chain.

Supplier Code of Conduct

To ensure ASEH's core sustainability value can be extended throughout our supply chain. ASEH's suppliers are expected to comply with our Supplier Code of Conduct which requires them to comply with local laws and regulations where they operate, and conduct business in a manner that meets labor, health and safety, environment, business ethics, management and various corporate compliance standards. The suppliers are required to drive their suppliers to meet such standards and oversee their compliance status. ASEH also applies the code to its supply chain management to ensure the provision of a safe work environment, respect for workers, environmental protection and ethical conduct. ASEH forbids the use of child labor or forced labor by its suppliers, and shall terminate its relationship with suppliers involved in serious violations although no such instances were found in 2023. Please visit: https://www.aseglobal.com/en/pdf/aseh-supplier-coc-en.pdf

Supplier Sustainability Management Approach

As part of the ASEH Procurement and Supply Chain Development Policy and Commitment, we established a four-stage sustainability supply chain management process that is run repeatedly to ensure supplier compliance and enhance their sustainability performance. We have also established a series of supplier programs that aim to guide, and help build up our suppliers' ESG capabilities, so as to create a more sustainable supply chain together. We have also formulated mechanisms to closely monitor ESG performance for rewarding or disengaging with suppliers.

Sustainability Requirement	ESG Risk Screening	Sustainablity Assessment and Validation	Improvement and Capacity Build-up
Suppliers are required to comply with ASEH's Supplier Code of Conduct and sign the "ASEH Supplier Code of Conduct Commitment Letter".	(1) **Active Survey:** Conduct preliminary assessment and grade risk level according to type of supplier business relationship, category of product, location and potential ESG risk. (2) **Self-Assessment:** Identify high-risk suppliers by the result of "Supplier Sustainability Assessment Questionnaire" and further analysis by our procurement and sustainability team. **[Qualified Suppliers]** Qualified supplier are required to sign Supplier Code of Conduct Commitment Letter and pass our environmental and social risk assessment	(1) **Desk Assessment:** Complete desk assessment through reviewing relevant supporting information in SAQ (2) **On-site Assessment:** Risk level will be graded and analyzed by sustainability assessment (including labor, health and safety, environment, ethics, and management system aspects) which conducted by ASEH procurement and sustainability team (3) **Sustainability Assessment:** Incorporate ESG evaluation framework into major material and significant supplier business review, to ensure supplier's ESG performance besides product quality, cost, delivery and technology.	(1) Request suppliers to make improvements according to audit reports while suggestion and guidance will be provided by ASEH during the audit process. To lower risk, follow-up actions and secondary audits will be conducted. (2) Disengage Mechanism: (i) Suppliers whose improvement still incompliant with ASEH requirements are graded as significant suppliers, in the first year and subjected to lower procurement following by consultation. ASEH will conduct physical audit in the next year. (ii) Supplier incompliant with ASEH requirement for 2 consecutive years will be disqualified and terminated business

Supplier Sustainability Requirement

We require all suppliers to abide by the ASEH Supplier Code of Conduct. The ASEH Supplier Code of Conduct and Sustainability Assessment Questionnaire (SAQ) have been formulated based on the standards and guidelines of the RBA, OECD Guidelines for Multinational Enterprises, UN Guiding Principles on Business and Human Rights, UN Universal Declaration of Human Rights, ILO Declaration of Fundamental Principles and Rights at Work, ILO Fundamental Conventions and SA8000, etc. New suppliers are required to sign the Supplier Code of Conduct before any business engagement, and the relevant policies will also be stated clearly in our purchase orders and supplier e-platforms, to ensure full compliance. Compliance with the Code of Conduct is key to our procurement decision with any supplier. In parallel, we require approved suppliers to acquire certifications in ISO 9001, IATF 16949, ISO14001, ISO 45001, while major suppliers are encouraged to acquire ISO 14064-1 and ISO 14067 certifications for continuous sustainability improvements and raising their competitiveness.

Supplier ESG Risk Screening

To better manage supplier risks, we established a 2-phase screening process that evaluates any underlying ESG risks at our suppliers. For suppliers that exhibit high levels of ESG risks, ASEH will closely monitor and supervise them through periodic audits and guidance to mitigate and control the risks effectively.

Phase I: Active Assessment – All suppliers

Base on type of business relation between ASEH and supplier, and the procurement value, we then assess the procurement category (eg. raw material, facility, equipment, contract services) and potential ESG risks.

Category	Assessment Methodology
Business Closeness	Conduct preliminary assessment by reviewing purchase amount and category of supplier (including material, facility, equipment supplier and service contractor)
Environment	(1) Major incidents or governmental, environmental, and social violation record (2) Potential negative impact (Environmental: hazardous substance management; Social: child labor, forced labor; Governance: corruption, bribery or supply disruption risk)
Social	
Governance	
Location/Country	Employ localized and high-risk regional controls at the supplier location. Identify risks according to geopolitics, regional conflicts and high-risk country factors.
Sector-specific	Identify industry specific risks by designing different types of sustainability assessment questionnaires focusing on specific risk topics
Commodity-specific	Screen key materials containing hazardous substances by material properties.

Phase II: Self-Assessment – Tier-1 suppliers

To cater for a diverse and complex supplier base, we have customized our sustainability self-assessment questionnaire (SAQ) according to the type of industry, and ESG risk assessments for different categories of suppliers.

Supplier Category and Sustainability Assessment Aspects

- **Raw Material and Equipment Supplier:** Labor, Health and Safety, Environmental Protection, Sustainable Governance and Risk Management, and Supply Chain Management
- **Facility and Waste Management Suppliers:** Labor, Health and Safety, Environmental Protection, Ethics, and Sustainable Management System
- **Service Providers:** Labor, Health and safety, Ethics, and Sustainable Management System

2023 Supplier Sustainability Risk Gap

Category	Risk Gap Description	
Governance and Economic	Risk and Business Continuity Management	Procedures for the identification of regulatory risks affecting business operations have yet to be established
	Personal Data and Privacy Management	Privacy and personal data risk management procedures have yet to be established
	Information Security Management	Lack of regular internal/external information security audits and employee education and training
	Supplier Sustainability Management	Procedures for managing sustainability risks in the supply chain have yet to be established
		Lack of a regular sustainability audit and improvement mechanism for the supply chain
Environment	Climate Change and Carbon Management	Procedure for climate risk evaluation, and mitigation and adaptation measures have yet to be established
		Mechanisms to measure GHG inventory and reduction targets have yet to be established
	Water Management	Reduction targets and recycling mechanisms in water resource management have yet to be established
Social	Occupational Health and Safety	Risk assessment processes to evaluate employees' health and safety have yet to be established
		Lack of a management and prevention mechanism for emerging infectious diseases
	Human Rights Management	Commitment or policies related to human rights management have yet to be established
	Labor Rights	A system for the assessment of labor-related risks and impact has yet to be established

Supplier Assessment and Evaluation

Phase I: Desk Assessment – Tier-1 supplier

We've conducted sustainability assessment questionnaire to all Tier-1 material suppliers. Suppliers are required to self-assess risk and provide corresponding supporting document in accordance with their responses to the question. To improve the completeness and response rate of the supplier sustainability risk assessment questionnaire, we've launched an E-platform which build up a sharing and analyzing sustainability information database for ASEH subsidiaries. With the E-platform, the progress of the questionnaire can be effectively managed and tracked. The response rate for the supplier sustainability assessment questionnaire is exceeded 79% in 2023 with a number of 645 suppliers.

Equipment, facility, and waste management suppliers, as well as service contractors are required to carry out annual sustainability risk assessments according to the respective procurement amounts and type of business relationship. In addition to integrating biodiversity and science-based reduction targets for raw material suppliers in 2022, we have included plastic management topics in 2023 to better manage supplier compliance and strengthen supply chain resilience. Establishing risk assessments will help us better manage our relationship with suppliers and build a more resilient and sustainable supply chain.

Phase II: On-Site Assessment[1] – Significant supplier

We define significant suppliers by high-risk supplier that identified by SAQ survey result and its business closeness with ASEH. Then we conduct physical assessment and provide counselling to ensure supplier's risk circumstance and continually reduce risk level. In 2023, we conducted sustainability assessments (on-site/ remote audit and RBA VAP) on 201 suppliers, including 85 suppliers with potential ESG risks.

[1] On-Site Assessment: 2nd and 3rd party assessment and supplier assessments with industry initiative

Supplier Sustainability Risk Assessment ("RA") Targets and Procedures

RA1: Active Risk Assessment Targets: All suppliers	Conduct preliminary risk assessments on the procurement spending, type of business relationship, type of industry, and ESG performance of all supplier
RA2: SAQ Targets: All Tier-1 suppliers	Identify significant suppliers based on supplier location, commodity-specific risks and SAQ result
RA3: Counseling and On-site Assessment Targets: Significant suppliers	Conduct on site audits and guidance programs for significant suppliers to mitigate risks

Sustainability Risk Assessment Factors

Sustainability Assessment

For our key raw material and critical suppliers, in our evaluation of major raw materials and key suppliers, ESG indicators are integral factors influencing our selection in addition to quality, cost, delivery time, and technology. We drive our suppliers diligently to adopt sustainable practices through proactive management strategies. Suppliers with the best ESG performance are recognized at our annual supplier day, and invited to share their expertise in sustainability development with other suppliers at the annual supplier forum. Outstanding suppliers also receive priority in our procurement selection policy.

Sustainability Assessment Item
Carbon Management: Greenhouse Gas Emission, Product Carbon Footprints, Carbon Reduction Target, Renewable Energy Target
Environmental and Occupational Health Safety
Responsible Minerals Management
Penalty Record

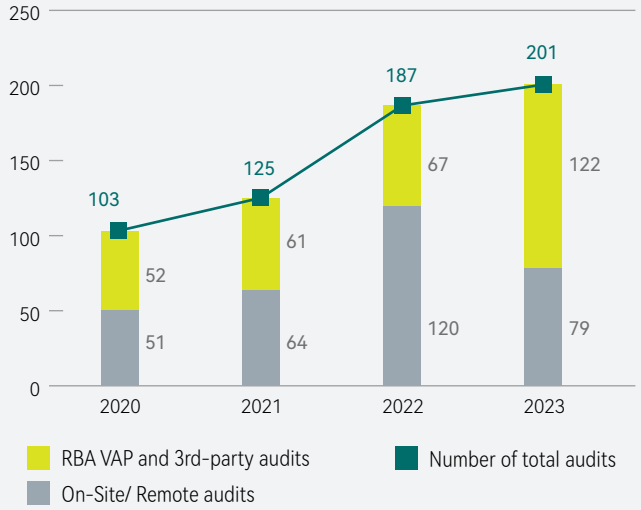
Supplier Performance Improvement Program[1]

ASEH has implemented on- site or remote support to help suppliers develop actionable plans on completion of correction and improvements within a specified timeframe. Then, we will follow up with a second audit to track the progress of corrective actions and ensure all identified deficiencies have been effectively addressed and resolved. For suppliers who continue to fall short of compliance despite counselling, we will still offer guidance in the first year and potentially reduce our procurement volume with them. To fulfill our commitment to sustainability, suppliers will be removed from our qualified supplier list if they fail to meet expectations in the second year, and all dealings with them will be suspended. In 2023, all of the audited suppliers have taken corrective actions and completed supplier improvements. No supplier was terminated for non-compliance.

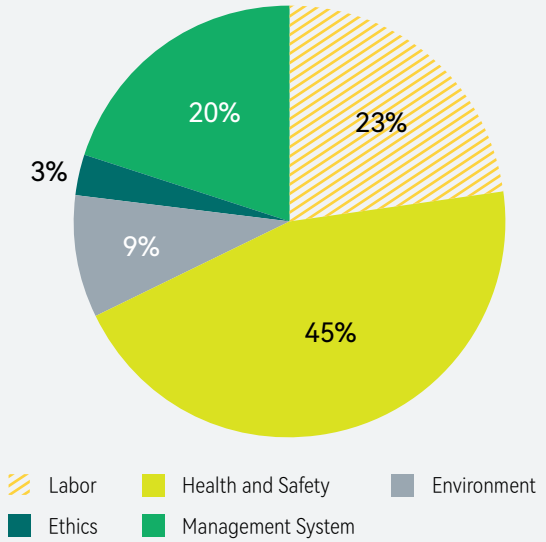
To further reduce supply chain risks, ASEH has begun to implement sustainability risk management for non Tier-1 suppliers. In 2023, we conducted sustainability surveys on 22% of our non Tier-1 suppliers, of which 8% had undergone on-site/remote audits or RBA VAPs. We will continue to expand the integration of our sustainability risk management processes for non Tier-1 suppliers so that we can achieve a more robust and resilient supply chain.

[1] 2023 supplier corrective action target is 100% completion of implementation by audited significant suppliers

Number of Supplier Sustainability Audit



Supplier Sustainability Audit Findings by Category in 2023



Supplier Audit Results and Corrective Actions in 2023

Category	RBA Code of Conduct	Major Findings	Improvement Actions
Labor	Working Hours	• Exceeding 60-hour work week • Continuous work for 7 days	• Plan in advance the appropriate number of personnel and overtime work in accordance with production demands to prevent excessive overtime due to manpower shortages • Establish a tracking mechanism to manage overtime and to day off for every seven working days
	Freedom of Choice of Employment	• New employees paying for medical examination and documentation fees, contravening ASEH's zero-fee policy • Employment agreements not provided in native languages for foreign employees	• Ensure the signing of proper labor contracts and the provision of the original contract to foreign employees
Health and Safety	Emergency Preparedness	• Firefighting equipment not regularly inspected • Emergency exits and fire safety facilities blocked	• Conduct regular inspections to ensure proper functioning of firefighting equipment and unblocked emergency exits
	Industrial Hygiene	• Personnel not wearing personal protective gear in hazardous work areas	• Enhance safety training and internal inspections to ensure proper usage of protective equipment
Environment	Hazardous Substances	• Improper classification and labeling of hazardous substances/waste	• Set up hazardous substance storage areas and establish a daily inspection mechanism
Ethics	No Improper Benefits	• Incomplete business ethics policy (lacking provisions on bribery or influence peddling)	• Develop a complete business ethics policy with clearly defined guidelines and rules demonstrating commitment to preventing bribery and improper conduct
	Protection of Identity and No Retaliation	• Lack of an anonymous reporting and complaint mechanism	• Establish internal and external anonymous reporting mechanisms and channels
Management Systems	Legal and Customer Requirements	• Lack of a comprehensive procedure for identifying regulatory and customer requirements	• Establish identification procedures to include regulatory and customer requirements
	Supplier Responsibility	• Lack of supplier ESG risk assessment procedures and audit systems	• Establish supplier ESG risk assessment procedures and audit systems

Sustainable Supply Chain Development Program

ASEH believes that proactively assisting suppliers in enhancing their capabilities is critical to the prosperity of the supply chain and progress toward a sustainable future. As part of our supply chain growth strategy, we have formulated a wide range of programs that provide suppliers a variety of resources and information, such as the annual sustainability forums, sustainability enhancement programs, and ESG workshops and educational training. These programs aim to drive stronger partnerships, allowing us to respond quickly to changing environments.

Annual Sustainability Forum

In 2023, USI hosted the Annual Sustainability Forum, bringing in a total number of 500 participants from suppliers

USI	• Communicate USI Corporation's requirements for supplier sustainability risk management • Promote USI Corporation's green products, conflict minerals policy and management requirements, and explain its main focuses in the annual audits of green products and conflict minerals • Sharing ESG Experiences by Outstanding Suppliers • Featured Topic – Net Zero and the Challenges of Scope 3 Emissions across the Supply Chain

Sustainable Capacity Building Program

Greenhouse Gas Inventory Guidance Program	Target: Raw material, Equipment and Waste management supplier

Addressing Scope 3 emissions is key to ASEH's pathway to Net Zero. As such, we have allocated resources across our supply chain to provide guidance and support to suppliers in establishing GHG and product carbon footprint management that comply with regulatory requirements. Since 2022, we have been working with external consultants on a medium- to long-term carbon inventory guidance project for the supply chain. Our on-site and online guidance programs aim to help suppliers develop GHG and product carbon footprint inventory capabilities and obtain external certification such as ISO 14064-1:2018 and ISO 14067. By the end of 2023, 19 suppliers have obtained external certification as a result of ASEH's support. By working closely with our suppliers, we can help identify carbon emission hotspots in their operations and drive emission reduction plans that strengthen their carbon management capabilities. At our annual supplier conference, we acknowledge and present certificates to the suppliers who have completed the verifications. These initiatives amplify ASEH's influence and encourage knowledge sharing and competition among peers that lead to the integration of carbon management into the suppliers' operations.

Renewable Energy Development Project	Target: Raw material, Equipment and Logistics supplier

In response to the challenges of climate change, SPIL has partnered with customers since 2021 to promote the "Green Energy and Low-Carbon Environment Program" which encourages the development of renewable energy within the supply chain. SPIL also collaborated with 10 suppliers to support the development of infrastructure for renewable energy. Participating partners include those supplying materials and logistics services. The program has helped suppliers to enhance the operational efficiency of their renewable energy infrastructure, maximizing energy recovery. In 2023, the project achieved a total annual energy savings of 2.27 million kWh and a carbon emission reduction of approximately 1,338 tons.

Carbon Reduction and Water Conservation Guidance Project	Target: Raw material supplier

Since 2021, ASE Kaohsiung has provided support to suppliers in reducing GHG and water resource consumption and at the same time, established a 1% reduction target which was achieved in 2022. In 2023, ASE Kaohsiung set a more ambitious target of a 3% reduction for both GHG and water resources. A total of 58 key suppliers committed to this endeavor, and worked with ASE to set reduction targets and action plans. In 2023, we successfully reduced GHG emissions by 227,655 tons of CO_2e across our supply chain, equivalent to 4.3% annual reduction, and reduced water consumption by 3,297,905 tons, equivalent to 4.8% annual water saving. Both reduction outcomes exceeded our established target of 3% for 2023.

To disseminate our company's expectations and requirements in a timely manner, and to align with global sustainability trends, ASE Kaohsiung has established an online sustainability knowledge platform. The platform enhances suppliers' awareness of sustainability by offering training resources created internally by the company's experts on carbon reduction and water saving. This flexible learning approach, unconstrained by time and location, utilizes digital tools to promote low-carbon lifestyles and enhance suppliers' sustainability capabilities.

Information Security Evaluation and Management	Target: Equipment supplier

As a response to the increasing digitalization of the supply chain and cybersecurity threats, we established a supplier information security evaluation system in 2022 to ensure supply chain resilience. Evaluation of key suppliers are conducted in four steps: current status assessment, improvement support, results confirmation, and cyclical review. In 2023, we completed cybersecurity evaluations for 76 equipment suppliers, identifying their cyber risks and weaknesses. A support team, formed by our subsidiaries, provides prioritized improvement suggestions and conducts follow-up site visits the following year to track the improvement results. This comprehensive supply chain cybersecurity management ensures the operational safety of ASEH and enhances the overall cybersecurity resilience of the supply chain.

ESG Workshops and Educational Training

We believe in sharing and communicating with our suppliers to promote our commitment of a sustainable value chain and expectations on sustainability management and ESG performance. In tandem, we hold regular workshops on sustainability topics and training sessions adapted to the different attributes of each supplier category. Establishing effective platforms for dynamic two-way communication with our suppliers help foster continuous cooperation on sustainable development and boost the agility of the supply chain in responding to sustainability trends and risks.

ESG Workshops – Development Trends and Practical Techniques in GHG Inventory	Number of total participants :128
ASE – Kaohsiung **Target: Raw material supplier, Equipment supplier**	• Share international trends in climate issues and future regulatory requirements • Sharing Practical Techniques for Greenhouse Gas and Product Carbon Footprint Inventory

Regular Educational Training	Number of total participants: 4,879
ASE – Kaohsiung, Chungli, ASE Shanghai (Material), Wuxi, Malaysia, and Korea **USI** **Target: Raw material, Facility, and Waste management supplier, Recruitment agency and Service provider**	• Promote health and safety, food safety, and environmental health and safety policies • Disseminate knowledge on fire management, fire rescue, and emergency evacuation procedures • Conduct annual evacuation drills and emergency response exercises for vehicle accidents

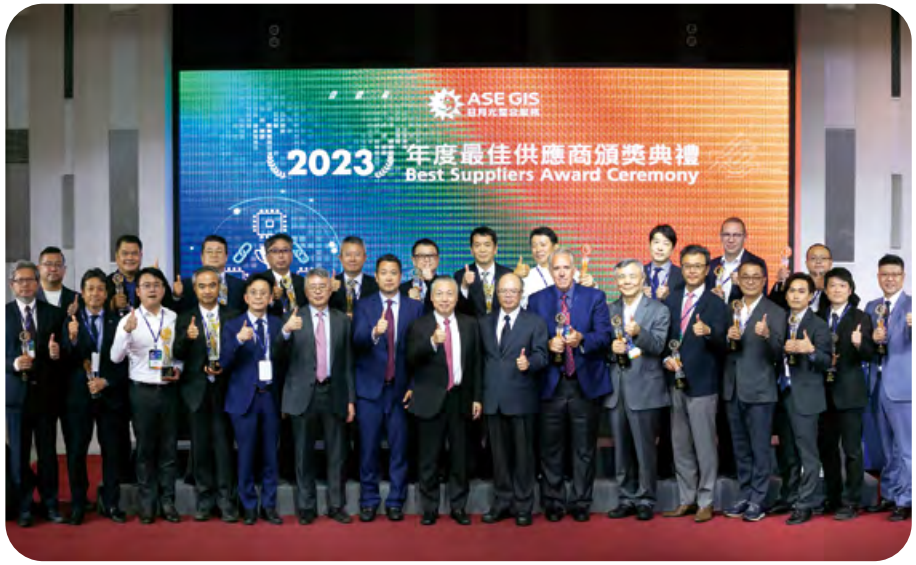
ASEH Supplier Sustainability Awards

As part of the company's endeavor to drive sustainable development across the supply chain, ASEH launched the Supplier Sustainability Awards in 2017 to recognize suppliers with outstanding sustainability performance. In 2020, the award program with a new supplier incentive program was jointly organized by all three ASEH subsidiaries. In 2023, we expanded the scope of suppliers and focused on the company's four sustainable strategies- Low Carbon, Circular, Inclusive, and Collaborative. The program encourages suppliers to submit sustainability partnership projects of between 1-2 year duration, for reviewed by ASEH and independent third parties. The submitted projects undergo a rigorous selection process based on the implementation timeframe and efficacy, and selected projects will be funded by the ASE Environmental Protection and Sustainability Foundation.

We are constantly refining our approaches to building a resilient supply chain and strengthening the bond between ASEH and our supply partners. We believe that a creative model with built-in incentives could accelerate the achievement of a circular economy and a low-carbon transition that allows ASEH to increase value and capture business opportunities. Recognizing the efforts of our suppliers through the awards will boost their commitment to sustainable development and encourage more suppliers to be proactive in advancing a sustainable future for the semiconductor industry. Collaborating with our suppliers on the path to sustainability, every two years, we will select and fund unique sustainability projects that have the potential to demonstrate a high degree of positive influence and produce beneficial results.

For the year 2023, we selected one supplier each from the categories of 'Low Carbon' and 'Circular' as winners of the sustainability award. ASEH will subsequently conduct independent on-site audits in 2024 and 2025 to verify the performance and progress of the winning suppliers' projects, and disburse sponsorship fees accordingly.

Sustainable Strategies	Selected Suppliers	Collaboration Project	Expected Benefits
Low Carbon	Hwa Shu Enterprise Co., Ltd.	Introduction of energy-saving electric heating system	• Reducing power consumption • Stabilizing temperatures during the manufacturing process • Enhancing heating and cooling efficiency to increase manufacturing capacity
Circular	Chiu Tze Chemical Co., Ltd.	Waste liquid recycling and reuse	• Increasing waste recovery rate and saving on waste disposal expenses • Increasing the use of recycled packaging materials • Increasing the use of recycled raw materials • Reducing unit material usage



7.4 Responsible Minerals Compliance

To communicate ASEH's conflict minerals management requirements, the ASEH Corporate Policy for Sourcing Conflict Minerals is posted on our company website, please visit: https://www.aseglobal.com/csr/responsible-procurement/conflict-minerals-compliance/

Responsible Minerals Management

To prevent the unintentional use of any conflict mineral such as tantalum, tin, tungsten and gold (3TG) from the Democratic Republic of the Congo and its neighboring countries, we have established the ASEH Corporate Policy for Sourcing Conflict Minerals, joined the Responsible Minerals Initiative (RMI)[1], and participated in the RMI Mineral Reporting Templates (MRT) Teams and Due Diligence (DD) Practices Team to resolve conflict minerals issues in the supply chain and support responsible sourcing.

ASEH communicates conflict mineral policies to our suppliers through our website. The suppliers are required to comply with ASEH Corporate Policy for Sourcing Conflict Minerals and establish their own conflict minerals policies and to their own suppliers. We also require our suppliers to actively assess and validate their supply chain, and encourage them to source minerals from Smelters or Refiners (SoRs) that have received "conflict-free" designations by the Responsible Minerals Assurance Process (RMAP), or other independent third-party audit program.

Responsible Minerals Management Approach

Conflict Minerals Requirements	Reasonable Country of Origin Inquiry (RCOI)	Due Diligence (DD)	Independent Private Sector Audit (IPSA)	Public Disclosure (CM Report)
▶ Comply with ASEH Corporate Policy for Sourcing	▶ Conflict Minerals Reporting Template (CMRT) ▶ Conflict Minerals Representation Letters ▶ On-site/paper audit	▶ Comply with the OECD Guidance	▶ Conduct IPSA	▶ Public Conflict Minerals Report on company website

Reasonable Country of Origin Inquiry (RCOI)

Each year, ASEH performs RCOI to identify and validate the sources of 3TG in our packaging and material services and electronic manufacturing services and products, and whether they come from conflict affected regions.

Our RCOI includes two steps:

1. Identify sources of 3TG SoRs through CMRT by conducting supplier survey.
2. Suppliers are asked to sign the Representation Letters of compliance with ASEH Corporate Policy for Sourcing Conflict Minerals and to fully reveal the source of the SoRs they sourced from.

Since 2011, we have conducted the supply chain survey to identify the source of SoRs that are used in the processes of our packaging and material services, electronic manufacturing services and products. We identified the minerals and the source of smelters through CMRT. In 2023, we have identified 230 SoRs from more than 389 suppliers. According to the supplier survey we conducted in 2023, 100% of our suppliers are compliant with ASEH's requirement for sourcing DRC conflict-free minerals.

With regard to critical materials, we have expanded our scope of investigation to cover suppliers for cobalt and mica, in addition to 3TG. In 2023, we intensified our efforts to investigate the sources of copper, iron, nickel, aluminum, and other metals, and disclosed smelter sources to customers. In 2023, 185 suppliers used cobalt from 81 smelters, and 1 suppliers used mica from 1 smelters.

[1] ASE took the initiative to join the RMI in 2015 and has continued its participation as ASEH to this day

100%

Conflict Minerals Compliant Suppliers in 2017–2023

Due Diligence (DD)

ASEH designed its DD measures to conform to the Organization for Economic Co-operation and Development Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas (the "OECD Guidance") and we also adopted the OECD Guidance to not only identify/ assess supplier risks and mitigate these identified risks, but also to design a conflict minerals audit form for ASEH's suppliers. We were therefore able to provide guidance through both on-site/remote and off-site audits to help suppliers set up management mechanisms that complied with OECD Guidance.

Independent Private Sector Audit (IPSA) and Public Disclosure

We undertake an IPSA on our Conflict Minerals Report and DD procedure to ensure they are in compliance with the requirements set forth by the U.S. Securities and Exchange Commission (SEC). Each year, the Conflict Minerals Report is also disclosed publicly[1]. Based on our RCOI analysis and DD measures in 2023, we reasonably believe that the identified SoRs used for all of our packaging and materials services products are DRC Conflict-Free. Given the large number of suppliers for our electronic manufacturing services, we developed a sampling program to select material suppliers for the purpose of identifying SoRs. We believe that our due diligence performed based on the sampling program is sufficient and appropriate to provide a reasonable basis for our determination. Therefore, we reasonably believe that such SoRs used for all of our electronic manufacturing services products are DRC Conflict-Free.

Continuous Improvements

Going forward, we will continue to improve in four aspects:

- **Management Mechanism:** be aware of regulatory changes and adjust our policy in a timely manner, improve our validation process and requirements to new suppliers and existing suppliers, optimize internal management systems, and reinforce educational training etc.
- **Due Diligence:** expand the mineral survey's scope, improve the accuracy and completeness of data, assess suppliers' due diligence processes through on-site audits so as to assist suppliers to build up internal management systems, etc.
- **Communication:** hold supplier seminars, actively participate in the RMI and other key industry associations' initiatives, etc.
- **Conflict-Free Label:** evaluate to build up conflict-free label mechanism

[1] For complete file of ASEH SEC Conflict Minerals Filing, please visit our website at https://www.aseglobal.com/csr/responsible-procurement/conflict-minerals-compliance/ or SEC's website at https://www.sec.gov/Archives/edgar/data/1122411/000095010324007485/dp211472_ex0101.htm

CORPORATE CITIZENSHIP

The community has played an important role supporting ASEH's growth. We therefore, have a responsibility to provide support and give back to the community in locations where we operate. An active participant in charitable activities, education programs and social work, ASEH's optimal allocation of resources deliver positive impacts that allow both ASEH and the community to prosper and grow.

As a leading enterprise in the global semiconductor industry, ASEH is fulfilling corporate citizenship by engaging with local communities, environmental NGOs, and stakeholders in the industry, government and academic sectors. The company seeks to establish mutually trusting long-term partnerships and invest in resources to promote overall social development and higher value creation. Externally, we are initiating sustainable development in core business areas to strengthen the value of our sustainable innovations that will result in employee cohesiveness, and higher stakeholder confidence.

2023 Key Performance

NT$ 1,034 Million	NT$ 96 Million	NT$ 230 Million	161,261 units	249 hectares[1]
2014 ~ 2023 Environment Conservation Fund(ECF) Programs	2023 Community Engagement	2023 Industry-Academia Collaboration	2014 ~ 2023 LED Lamps Installation	2013 ~ 2023 Tree Planting

SDGs	Business Actions	2023 Material Aspects	KPI	2023 Target	Status	2023 Performance	2024 Target	2030 Target
13 CLIMATE ACTION	Promote climate conscious behavior and build capacity for climate action	Social Involvement	• Number of industry-academia collaboration projects on environmental technology • Number of energy-saving LED tube lights installed and number of schools with LED tube lights installed • Total area planted with trees (global)	• 10 industry-academia collaboration projects on environmental technology • 10,000 LED light tubes installed at 10 schools • 10 hectares planted with trees	Achieved	• 13 industry-academia collaboration projects on environmental technology • 25,000 LED light tubes installed at 26 schools • 31.68 hectares planted with trees	• 10 industry-academia collaboration projects on environmental technology • 10,000 LED light tubes installed at 10 schools • 10 hectares planted with trees	• Over 150 industry-academia collaboration projects on environmental technology • LED light tubes installed at 170 schools • 250 hectares planted with trees
4 QUALITY EDUCATION	Implement programmes to support higher education and access to free, equitable, and inclusive primary and secondary education		• Number of students attending semiconductor course • Number of disadvantaged students attending after school program	• 100 students attending semiconductor courses • 100 disadvantaged students in the community attending after school program	Achieved	• 453 students attended semiconductor courses • 222 disadvantaged students in the community attended after school program	• 100 students attending semiconductor courses • 100 disadvantaged students in the community attending after school program	• 2,000 students attending semiconductor courses • 2,000 disadvantaged students in the community attending after school program
8 DECENT WORK AND ECONOMIC GROWTH	Drive economic growth and productivity by investing in R&D, upgrading skills, and supporting growing businesses, in a way that is compatible with sustainable development		• Number of innovative industry-academia collaboration projects • Number of legislative or sustainability initiatives	• 30 innovative industry-academia collaboration projects • 2 legislative initiatives for issues related to the semiconductor industry	Achieved	• 81 innovative industry-academia collaboration projects • 6 legislative initiatives for issues related to the semiconductor industry	• 30 innovative industry-academia collaboration projects • 2 legal initiatives for issues related to the semiconductor industry	• 450 innovative industry-academia collaboration projects • 25 legal initiatives for issues related to the semiconductor industry

[1] In 2023, we conducted a comprehensive assessment of the afforestation performance of all of ASEH's subsidiaries, and corporate foundations, updating the afforestation years and hectares, as well as statistical methodology

Corporate Social Involvement Focus, Benefits, and KPIs

Focus	SDGs Alignment	Business Drivers	Business Benefits & KPIs	Social/Environmental Benefits & KPIs	Impacts
Environmental Conservation		ASE is raising awareness in climate change mitigation and adaptation, impact reduction and early warnings through education, and intensifying R&D in environmental technologies and improvements in production efficiency to reduce environmental impacts. The primary factors driving the company's core operations are: • Increasing production efficiency; changing volatile organic compound treatment methods; reducing treatment costs; ensuring competitive pricing • Promotion of green products and services and implementation of community environmental education programs to encourage green consumer behavior and improve climate literacy **2030 Targets:** • Over 150 collaborative academic research projects on environmental technology • US$6.5 million reduction in outsourced waste management costs	**Improvements to environmental technology R&D and production efficiency in 2023:** • 13 research projects on environmental technology in collaboration with academic, research institutes and suppliers • Our wastewater recycling technology reduces concentrated wastewater discharge by 30%, saving us approximately US$391,900 in water bills • Our organic water recycling technology increases our water recovery rate from the manufacturing process, saving us approximately US$228,600 in water treatment costs • We have developed a tracking and alert system for air pollution and odor that uses big data and a systematic approach to accurately determine odor distribution hotspots, effectively preventing and reducing the occurrence of odor incidents 2015-2023 • 104 research projects on environmental technology in collaboration with academic, research institutes and suppliers; resulted in a total cost reduction of US$11.05 million * More information refer to appendix(Social Data - O. Social Involvement Key Performance)	**Reducing environmental impact, improving quality of life, and raising environmental awareness in 2023:** • 25,000 LED light tubes installed at 26 schools reduced energy use by approximately 540,000 kWh and carbon emissions by approximately 267 tCO_2e • Newly afforested areas totaled 31.68 hectares, resulting in the sequestration of 158.14 tCO_2e • Organized 84 coastal and beach cleaning events with a total of 1,945 participants, resulting in the removal of 313.97 tons of garbage • We continue to promote the concept of sustainable food and agriculture by supporting the operation and maintenance of Da Gang Elementary School's green energy aquaponics farm, developing aquaponics food and agriculture courses for all grade levels and organizing aquaponics experience activities for seniors • Implemented 264 environmental education courses; 11,460 students participated; 53 promotional videos on environmental education were produced • Transferring environmental research projects from industry-academia cooperation to 22 other semiconductor businesses 2013-2023 • From 2014 to 2023, replacing and installing 161,261 energy-saving LED tube lights in 155 schools, saving approximately 16,531,800 kWh in electricity and reducing about 8,465 tCO_2e • From 2013 to 2023, a total of 249.27 hectares of land were newly afforested, resulting in the sequestration of 2,528.83 tCO_2e in 2023, for a cumulative total carbon sequestration amount of 9,370.52 tCO_2e[1] * More information refer to 8.2 Environmental Conservation	• **Improving environmental awareness:** Increasing employee and supply chain awareness in environmental protection and carbon reduction • **Adopting green production processes:** Using recyclable materials and green production processes in the development of new products, and improving waste disposal methods to minimize impacts on the environment • **Expanding adoption of green technology:** A total of 62 companies in the semiconductor industry and social organizations have drawn on the experiences of ASE's industry-academia collaborations to improve manufacturing eco-efficiency and fulfill environmental goals

[1] ASEH follows the 2006 IPCC Guidelines for National Greenhouse Gas Inventories to determine the carbon sequestration from afforestation

Focus	SDGs Alignment	Business Drivers	Business Benefits & KPIs	Social/Environmental Benefits & KPIs	Impacts
Industry-Academia Collaboration		The semiconductor industry is a high-tech industry that requires a large pool of talent in technological research and interdisciplinary R&D. We should leverage on the multiple professional and recruitment opportunities to attract talent and increase youth employability, by nurturing and equipping future employees with the relevant knowledge and professional skills to enhance the value of our human capital. The primary factors driving the company's core operations are: • Training potential talent (employees) for the future so as to enhance the value of the company's human capital • Developing next-generation semiconductor technologies and materials **2030 Targets** • Participate in over 450 collaborative academic projects on semiconductor materials and advanced technologies • Recruit over 6,000 interns	**Fostering semiconductor talents to promote technological innovation and development in the semiconductor industry in 2023:** • 81 industry-academia projects were conducted, covering research topics such as advanced packaging technologies, manufacturing process optimization, smart technologies, and information security • 453 students participated in the semiconductor courses **2015-2023** • Participated in 416 industry-academia projects involving semiconductor assembly, advanced materials, manufacturing automation technologies, etc. • 2,538 students participated in the semiconductor courses * More information refer to appendix(Social Data - O. Social Involvement Key Performance)	**Talent development via cooperative education, internship, and technological collaborations in 2023:** • Recruited 502 interns • 141 students participated in collaborative academic research projects • Awarded scholarships to 127 students • Collaborated with over 87 schools **2015-2023** • Recruited 5,306 interns * More information refer to appendix(Social Data - O. Social Involvement Key Performance)	• **Promoting innovative research and development of semiconductor technologies:** Working with top universities to establish the ASE Semiconductor Industry Institute, covering semiconductor assembly and testing, smart factories, and artificial intelligence; and continuing to promote industry-academia cooperation projects to induce the research and development of new technologies and propel industry development • **Improving the employability of young persons:** Enhancing the employability and competitiveness of young persons, cultivating relevant talent and strengthening the semiconductor industry talent pool
Community Engagement		ASEH is committed to bridge the economic, social and environmental development gaps between urban and rural areas in the communities where we operate. We are fostering stronger community bonds at each location through high levels of engagement in community development and caring for the disadvantaged. The primary factors driving the company's core operations are: • Ability to operate in a stable social environment • Enhanced corporate image and employee engagement **2030 Targets** • Reach 30,000 volunteers • Afterschool care for over 2,000 students from disadvantaged households • Providing over 95,000 subsidies to students from disadvantaged households	**Improving the centripetal force to the company through employees' participation in public welfare activities in 2023:** • 11,300 volunteer service hours • 3,660 volunteers **2015-2023** • 82,660 volunteer service hours • 24,330 volunteers * More information refer to appendix(Social Data - O. Social Involvement Key Performance)	**Corporate citizenship programs to improve mutual development with the local community in 2023:** • Participated in afterschool care for 222 students from disadvantaged households • Provided support for 73 charities • Provided financial aid for 9,393 students from disadvantaged households **2015-2023** • Participated in afterschool care for 1,731 students from disadvantaged households • Provided financial aid for 71,916 students from disadvantaged households * More information refer to 8.4 Community Engagement	• **Long-term care for the elderly:** Our Smart Mobile Clinic and well-equipped Mobile Gym continue to travel to remote areas, providing medical and health care for the elderly and individuals with limited mobility. We conducted educational courses ranging from health, technology, environmental protection to arts and crafts, to promote physical and mental health for the elderly in the surrounding communities • **Improved learning and living environments for disadvantaged children:** We are a long-term supporter of after-school care programs for disadvantaged students in remote areas. We continue to provide financial support and take active steps to improve their learning and living conditions, ensuring that they grow up happy and healthy

Focus	SDGs Alignment	Business Drivers	Business Benefits & KPIs	Social/Environmental Benefits & KPIs	Impacts
Public Advocacy	17 PARTNERSHIPS FOR THE GOALS	Sustainable development goals are achieved through the sharing of knowledge, expertise, technologies and financial resources. To that end, ASEH is promoting global partnerships in sustainable development, exchanging knowledge, expertise and technology knowhow with stakeholders, and expanding its sphere of influence through active involvement in industry organizations. The primary factors driving the company's core operations are: • Developing and formulating the next generation semiconductor technology blueprint and standards with the industry supply chain • Co-developing policy white papers with industry associations to serve as references for the establishment of policies and regulatory standards **2030 Targets** • 25 sustainability initiatives	**Driving innovation and development in semiconductor and electronic technologies and improving ASEH's leadership status in sustainable development** 2023 • Collaborated with 46 external organizations in areas related to core business • Active member of SEMI, the leading global industry association representing the electronics and design supply chain - Vice Chairmanship of the SEMI Board of Directors - Driving technology and industry through representation at key SEMI committees; Assembly and Testing, Flextech, Smart Manufacturing, MEMS and Sensors, High-Tech Green Manufacturing, Materials, Testing, Cybersecurity and Sustainable Manufacturing 2015-2023 • Collaborated with 525 external organizations in areas related to core business	**Initiating and driving impactful sustainability agendas to advance the semiconductor industry** 2023 • Collaborated with 94 external organizations in sustainable development • 6 sustainability topics and legislative initiatives: Net-zero emissions, DEIR, air pollution prevention and control, waste management, SEMI flexible hybrid electronics measurement standards, and environmental declarations for IC packaging and test services 2015-2023 • 32 sustainability and legislative initiatives	• **Driving the development of the semiconductor industry:** Setting industry standards for advanced packaging and associated technologies. Collaborating across the industry chain to promote the advancement of the industry • **Developing a complete and sustainable semiconductor industry ecosystem:** Partnering with various relevant organizations to promote initiatives for the sustainable development of the semiconductor industry, influencing government policy-making and corporate operations, and raising public awareness of sustainability issues

8.1 Social Involvement Overview

To achieve the common good for society, ASEH harnesses its power to stimulate positive social change, bringing about an increase in sustainable awareness and positive impacting behavioral change, skills development, and quality of life. Established as ASEH's highest level of organization for social involvement, the Corporate Sustainability Committee (CSC) is responsible for the planning, formulation, and implementation of social involvement policies and regulations, among which the "Public Affairs Engagement Policy"[1] is a set of guiding principles that provides foreign policy directions for all subsidiaries as well as support to organizations with similar ideologies as ASEH. Accordingly, ASEH has also established a supervision mechanism to evaluate the project performance of such foundations and social organizations to ensure that the investment of support and resources results in an actual impact.

ASEH conducts annual reviews to evaluate its campaigns and performance based on four development strategies—environmental conservation, industry-academia collaboration, community engagement and public advocacy. The CSC Social Involvement Taskforce is responsible for implementing social involvement policies at company facilities worldwide, evaluating the risks and opportunities, planning and organizing activities in public engagement. Each facility is responsible for the creation of local organization teams to plan and execute the programs in compliance with corporate policies and development goals.

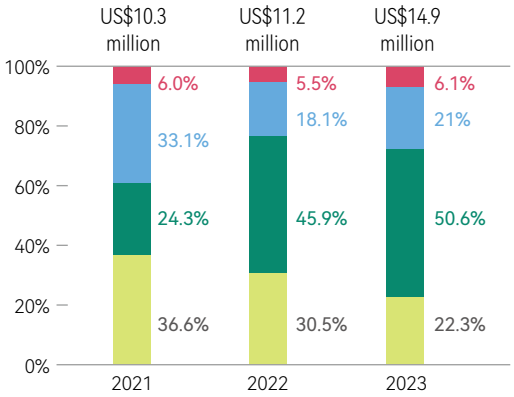
ASEH adopts the LBG (London Benchmarking Group) framework and SROI (Social Return on Investment) model to measure the input, output and impact of social involvement activities, and conducts biannual performance reviews and reporting. For ASEH's social engagement programs (conducted by the ASE Cultural and Education Foundation and the ASE Environmental Protection and Sustainability Foundation), we performed analyses of the social return on investment (SROI) and established a social investment performance evaluation system to optimize the evaluation of our social involvements and more effectively manage social engagement programs.

In 2023, we spent approximately US$14.9 million on social involvement activities, representing 1.07%[2] of ASEH's pre-tax net profit. The distribution ratio is similar to that in 2022. Industry-academia collaboration on education continues to account for the largest portion of our spending as we continue to focus on research and development of innovative technologies. The second largest portion of our investments was allocated to the conservation and protection of the environment. To that end, we recorded more than 11,300 hours of volunteer service performed by over 3,600 volunteers.

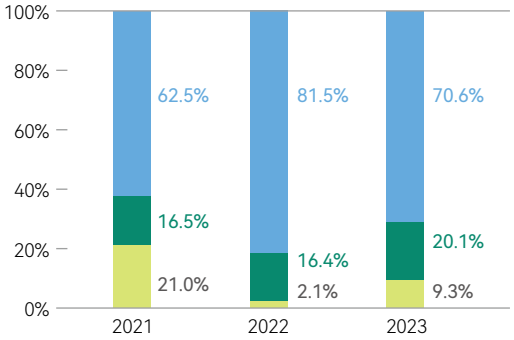
The Social Investment Performance Evaluation System

[1] ASEH Public Affairs Engagement Policy (https://www.aseglobal.com/en/pdf/aseh_public_affairs_policy.pdf)
[2] The 2023 pre-tax net profit was NT$42,611.8 million (for more information, please refer to ASEH Form 20-F)

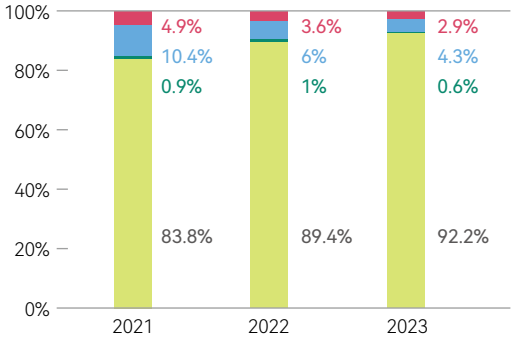
Distribution by Four Aspects



Distribution by Application



Type of Contribution



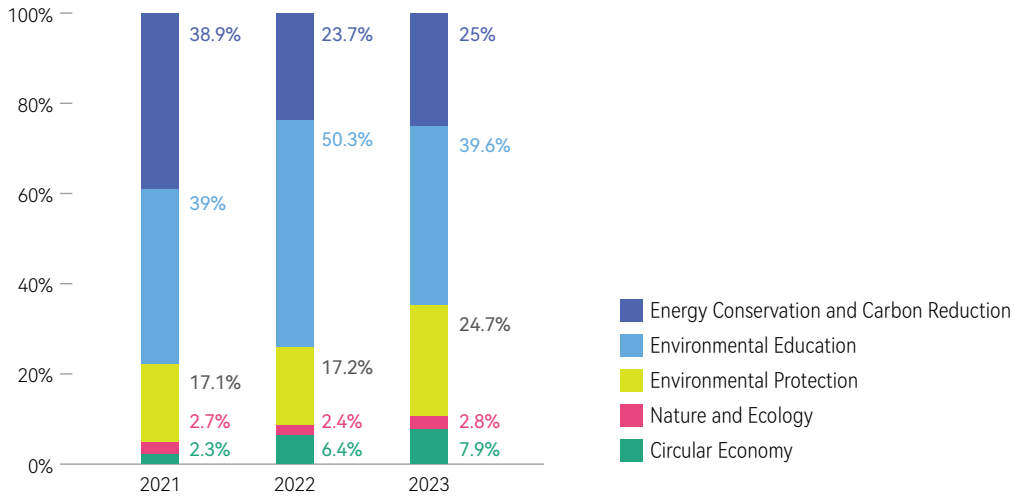
8.2 Environmental Conservation

To address the environmental impact caused by economic development and extreme weather, ASEH has designated the protection of the environment and public welfare as the cornerstones of our community engagement efforts. By bringing together local residents, government agencies, non-profit organizations, suppliers, customers and stakeholders to promote environmental projects, we aim to mitigate negative impacts and bring about positive developments. We remain committed to our 30-year goal (initiated in 2014) of investing a total of NT$3 billion towards environmental initiatives in Taiwan, whereby we will donate NT$100 million or more per year.

In 2023, to optimize resource utilization and deepen environmental sustainability efforts, NT$ 100 million was allocated to the ASE Environmental Protection and Sustainability Foundation (EPSF) for environmental projects focused on 5 key areas; energy conservation and carbon reduction, nature and ecology, environmental education, circular economy, and environmental protection. To date, a total of 37 projects are executed.

For more details on the projects, please visit our official website at: https://www.aseepsfund.org.tw/

Use of Funds in Environmental Conservation



2023 Accomplishments of ECF Programs

Programs	Major Projects
Energy Conservation and Carbon Reduction	• Reforestation Project • Campus LED installation projects • Green Supply Chain Guidance Project • Forest Management and Carbon Sequestration Methodology Development Project
Environmental Education	• Funding for master's theses and doctoral dissertations on environmental protection issues • Proposal selection for the 'Smile Taiwan' creative teaching project • "Grandma Chang's Magical Castle," a children's illustrated book on the environment published by the ASE Foundation, and educational activities on circularity • Da Gang Elementary School, Taoyuan City Aquaponics Operation and Maintenance Project • Sustainable Environmental Education for All Ages: Building a Water Paradise Project • Promotion of environmental education through the exemplary model of the ASEH Recycling Facility, Nanzih Industrial Park • Journey towards a Circular City by transforming lifestyles through source reduction - a project by Kaohsiung City
Environmental Protection	• ASE guardians of the seas • Coastal or river conservation and restoration • Academic research projects on environment-related technologies • Design and development of Nanzih green parks • Sponsoring the International Environmental Protection Expo 'Smart City × Green Technology'
Nature & Ecology	• Conservation of endangered native species in Taiwan - chinese box turtle • Central Taiwan Science Park (Huwei Campus): Eco-forest Restoration Project • Dongguang Elementary School: Butterfly Educational Eco-park and Environmental Research Project
Circular Economy	• Supplier Sustainability Award

ASE Guardians of the Seas

ASEH is committed to UN SDG 14: life below water, to conserve and sustainably use the oceans, seas, and marine resources, and address the problem of the degradation of the marine environment. Beginning in 2021, the ASE EPSF collaborated with the Taoyuan City Government to execute a coastal and marine environment conservation project, aiming to remove 500 metric tons of marine litter between 2021 and 2023. From 2021 to 2022, we successfully removed 663 metric tons of litter, and in 2023, we cleared 310 metric tons, exceeding our targets.

In 2023, we expanded the marine conservation and beach cleanup project to 6 locations (the northeast coast, Green Island, Liuqiu Island, Penghu, Orchid Island, and Kenting), rallying the local community and volunteers to conduct ocean and beach clean-up activities to remove trash from Taiwan's waters. On June 8, we held the 2023 ASE Ocean Day to clean up Fulong Beach, together with the National Police Agency (Ministry of the Interior), employees, DF Recycle and Foxwell Power (suppliers), Ming Chuan University, and community members (teachers and students from Fulong and Fulian Elementary Schools). The event attracted approximately 600 people. In tandem, an ocean clean-up drive was also conducted at 7 dive sites across the island, intensifying our efforts to protect Taiwan's seas. In 2023, we conducted 48 ocean cleanups and 36 beach cleanups, involving almost 1,945 participants and removing a total of 3.97 tons of marine and coastal litter.

ASE Guardians of the Seas

We continue to encourage and invite members of the public and company employees to join our ocean clean-up diving team. In 2023, we trained 36 new divers, and conducted the first ecological dive training for 124 people, equipping them with more advanced marine conservation knowledge. Additionally, we mobilized more than 135 divers for our coral conservation efforts in Penghu to restore 540 corals and perform regular maintenance. To further protect the biodiversity of the marine environment, we launched a coral observation and monitoring project to record health data for the local coral beds.

Campus LED Installation Projects


Campus LED Installation Projects

The ASE Environmental Protection and Sustainability Foundation continued to promote campus LED light installation projects. By assisting elementary and junior high schools in rural areas and communities surrounding ASE facilities to replace fluorescent tubes and light bulbs with LED lights, the projects help to protect the eyesight of schoolchildren. Since the project was first launched ten years ago, we have installed 161,261 LED tube lights in 155 schools in the Nantou and Kaohsiung areas. Over the years, the LED projects have helped schools to save 16,531,800 kWh of electricity and reduce 8,465 tCO_2e. LED lighting also helps to create a well-lit environment, in turn improving teaching quality and at the same time achieving energy conservation and carbon reduction.

	School	LED Lamps	Electricity saved annually (kWh)
2020	25	15,360	331,776
2021	17	17,260	372,816
2022	21	27,360	590,976
2023	26	25,000	540,000

Sustainable Environmental Education for All Ages: Building a Water Paradise Project

Since 2021, the ASE Environmental Protection and Sustainability Foundation has been collaborating with the Taoyuan City Government on a three-year project to promote aquatic environmental awareness and related activities. Under the project scope, there are 4 sub-plans covering the following. 1. Preschool Children's Environmental Learning Park. Upgrades and improvements were made to the infrastructure of the Xinwu Environmental Learning Park, that include environmental, food, and agricultural classes suitable for preschool children, elementary school students, and parent/child groups. Over the past three years, 638 environmental classes have been held, benefiting 108,839 participants. 2. Shimen Reservoir Educational Tour. Elementary school students from various districts of Taoyuan City went on educational tours of the Shimen Reservoir catchment areas and the surrounding ponds to help them understand the impact of climate change on Taiwan's water resources as well as the importance of resource recycling. Over the past three years, 250 environmental classes were held, benefiting 6,609 participants. 3. Satoumi Digital Learning. Teachers from the Satoumi College of marine science were provided comprehensive training as part of the environmental education for all age groups. To promote Satoumi ecological tourism, a website was created to promote the Taoyuan Eco Tours. Over the past three years, 57 coastal literacy workshops and ecotours (benefiting 2,897 participants), 30 master lectures and parent-child seminars (benefiting 1,989 participants), 7 marine education activities for young children (benefiting 59 participants), 2 marine science camps (benefiting 70 high school students), 3 coastal ecological docent elite classes (training 26 docents), and 55 coastal ecological tours for elementary and junior schools in Taoyuan City (benefiting 1,688 participants) were conducted in an effort to promote coastal environmental education for people of all ages to elevate their environmental protection awareness. 4. Water Patrol and Promoting Environmental Education. A website for the Water Paradise Project was created by the Taoyuan city government. As of the end of 2023, supporting companies have adopted 802 rivers, and the water patrol teams have conducted 24,962 patrols, obtained 4,154 water quality monitoring datasets, oversaw 2,532 waterfront revitalization developments, and held 417 aquatic environment educational activities.


Sustainable Environmental Education for All Ages: Building a Water Paradise Project

8.3 Industry-Academia Collaborations

Rapid advancements in technology and the increased in demand for skilled professionals have greatly intensified the war for talent in the semiconductor industry. To support the growth momentum of the industry, ASEH has established long-term industry-academia collaborations with colleges and universities to develop future talent. We seek to address the talent shortage in the industry by providing students with an early understanding of industrial needs and advanced semiconductor technology development, as well as connecting knowledge acquired in the classroom with practical industrial applications. Industry-academic collaboration enables us to offer a range of industry-specific courses, academic programs, and internship opportunities that strengthen the bridge between academia and the industry, powering an energetic pool of semiconductor talent for a winning future.

ASEH has created key programs like "academia cooperation and corporate internship", "academic research collaboration", and "scholarships" to leverage on the expertise from these academic resources. In 2023, ASEH continued its collaborations with local schools, contributing over US$7.5 million, including US$3 million towards 81 technology research collaborations and US$0.7 million for scholarships. We also recruited 502 interns and enrolled 453 students in the semiconductor courses. Nearly 80 schools and research institutions in Taiwan, China, Singapore, Malaysia, South Korea, Japan, etc. were involved in these collaborations.

	2020	2021	2022	2023
Number of interns	638	224	410	502
Number of people participated in the semiconductor courses	169	862	209	453
Number of technological research collaboration projects	74	66	74	81
Investments in technological research collaboration projects	US$1.4 million	US$1.8 million	US$1.8 million	US$3 million
Scholarships	US$0.06 million	US$0.3 million	US$1.1 million	US$0.7 million
Total invested in industry-academia collaborations	US$1.6 million	US$2.5 million	US$5.1 million	US$7.5 million

2023 Accomplishments of Industry-Academia Collaboration Programs

Programs

- Cooperative education and internships
- Academic research collaborations
- Scholarships

Projects

- ASE Industry-Academia Career Development Project/ Employment Orientation Project
- Semiconductor Assembly and Manufacturing Education Program
- ASE Internship and Company Visits
- Artificial Intelligence Colleges
- NSYSU College of Semiconductor and Advanced Technology Research
- University Corporate Mentorships
- USI University
- Semiconductor Assembly Technology Research Projects
- Manufacturing Automation Research Projects
- Advanced Semiconductor Materials R&D Projects

Stakeholders

- University Students
- Academic Institutions and Research Institutes
- Semiconductor Industry

Achievements

- Improving Career Prospects and Competitiveness of Students
- Improving Academic R&D Capabilities
- Cultivating Talented Personnel for the Semiconductor Industry

Promoting an innovative talent development model: ASEH x NSYSU College of Semiconductor and Advanced Technology Research

In response to the decreasing birth rate and the rising demand for advanced technology talent, Taiwan's Executive Yuan proposed a National Key Fields Industry-University Cooperation and Skilled Personnel Training Regulation in 2020. Following the proposed act, approval was given to the National Sun Yat-sen University (NSYSU) to establish the College of Semiconductor and Advanced Technology Research in 2022. NYSU is a premier university in Taiwan for key science and technology talents, and the semiconductor college will offer courses from the Institute of Advanced Semiconductor Packaging and Testing and the Institute of Precision Electronic Components. As a leading semiconductor packaging and testing player, ASE is proud to have played a significant role together with other industry peers on the establishment of the NSYSU college. ASE and the industry partners are committed to collaborate closely and invest generously to the building of semiconductor talent in Taiwan over the next decade.

The NSYSU College of Semiconductor and Advanced Technology Research admits a total of 120 students annually, comprising 80 students from the Advanced Semiconductor Packaging and Testing center, and 40 from the Electronic Components center. The college aims to develop 960 skilled individuals over a period of 10 years to meet the needs of the semiconductor sector. In 2023, ASEH made a financial contribution of US$1.7 million to the college, that was used to fund a total of 130 students from the first and second batches of the Advanced Semiconductor Packaging and Testing center. ASEH's contribution provided financial assistance to the largest number of students of any company involved in the project.

The curriculum uses an innovative talent development model consisting of one year of academic studies and two years of corporate internship. Students in the three-year program may be eligible to receive a scholarship of US$33,000 over a span of three years. The college's faculty, composed of ASEH industry experts and university professors, studies the needs of the industry and develops a professional course map and specialized technical research topics. ASEH and the college work closely together to establish a comprehensive curriculum and support mechanism, and design course modules tailored to industrial needs. The result is an integrated course content and internships that become progressively more in-depth and combine learning with hands-on experience. Upon completion of the internship, students may opt to pursue full-time employment with the company, benefiting the students and their families, the industry, and the nation as a whole. ASEH is proactively engaged in initiatives designed to bolster Taiwan's global competitiveness in the semiconductor industry, while generating local employment opportunities and a well-trained workforce for industrial growth.

ASEH x NSYSU College of Semiconductor and Advanced Technology Research

Formulating a smart technology blueprint: Industry-academia research on automation

ASE Kaohsiung is aggressively accelerating its digital transformation through smart manufacturing and pivoting into the era of Industry 4.0. The company has integrated the technology capabilities of academic institutions, and leveraged smart AI technologies as an inherent influence in corporate sustainability. Since 2015, ASEH has funded 49 industry-academia research projects in automation technologies.

In 2023, ASE Kaohsiung implemented five joint projects in collaboration with National Cheng Kung University and National Sun Yat-sen University. As a step to achieving ASE Kaohsiung's net-zero action plans, an information database and forecasting system was created to estimate the carbon emissions that may be derived from new products at each facility. In response to global cybersecurity threats, we have adopted data mining technologies that analyze account utilization patterns, identify potentially suspicious activities, and take preventive measures to enhance information security. To optimize manufacturing processes, artificial intelligence (AI) is used to assist our employees in the scheduling of machine operations and production, creating a cost-effective model with the shortest production and delivery time. To gain competitive differentiation, a high-performance database middleware was developed to improve data models, algorithms, and information management, facilitating the exploration and analysis of vast quantities of data, strengthening links with production lines, and avoiding data silos. We have also implemented a thematic analysis-based ASE knowledge map that transforms data into valuable knowledge. By adopting a multidimensional approach, we can now perform comprehensive and unbiased problem analysis, which not only minimizes query time but also enables the acquisition of more insightful information.

As part of our long-term strategy for smart manufacturing, ASE Kaohsiung is developing an Industrial AI (IAI) blueprint, and establishing a No Code IAI 2.0 platform. These undertakings are designed to be implemented in the areas of smart information security, quality assurance, smart diagnosis, smart design, and parameter optimization. Automation plays a key role in ASEH's digital transformation journey and AI technology is helping us to improve the accuracy of production scheduling and process output. In 2022, ASE Kaohsiung was inducted into the World Economic Forum Global Lighthouse Network (WEF GLN), becoming the first OSAT to achieve this distinction. At the end of 2022, ASEH has 46 smart factories in operation and the company has trained more than 700 automation engineers.

Automation Technology Forum

Grooming key industry talent: Investing in semiconductor packaging technology research and development

To continuously enhance its key technological capabilities, ASE Kaohsiung has partnered with National Cheng Kung University, National Chung Cheng University, National Sun Yat-sen University, and National Kaohsiung University of Science and Technology for eleven consecutive years on industry-academia research that is focused on packaging technology. In 2023, we organized the 11th Packaging Technology Industry-Academia Conference to present the findings of 15 research projects. ASE and the universities work closely together to spark innovation, and develop cutting-edge packaging technologies; strengthening ASE's connection across the global supply chain, and enabling the optimization of technologies and practical application.

Shortage and strengthen Taiwan's position as a global IC packaging cluster. The partnerships have allowed us to train highly skilled talent in advanced manufacturing processes, accumulated extensive technology and interdisciplinary R&D capabilities, and provided employment opportunities for students. With the rise in AI and autonomous driving, we have directed focus on 'advanced packaging and optical technologies' as well as 'AI applications and simulation technologies'. To meet market demands for miniaturization, we are incorporating AI computing into micro-machining technology to develop die cut tools for miniaturized chip packages. Smart automation in process design further improves the efficacy of detection and verification, optimizing product models and reducing development costs and time.

Assembly Technology Forum

Advanced packaging is a crucial enabler of AI. As a leading semiconductor player, ASE has built a portfolio of advanced packaging technologies to meet the demands of high performance IOT, and to address the exploding growth of the AI eco-system with the corresponding increase in chip demand. We understand that the key to maintaining our market leadership in the future is dependent on the training of skilled talents. As such, we are forging robust partnerships that maximize the abundant resources and capabilities of businesses, government, academia, and research institutions to generate local employment opportunities. In addition, we seek to promote the development of a strong semiconductor human capital base, and strengthen Taiwan's global position by fostering greater collaboration in semiconductor technologies and providing support for internship programs.

University Corporate Mentorships and Practical Application Training

To continue nurturing the much needed skillset and interest in semiconductor engineering, Silicon Precision Industries Ltd. (SPIL) has been building collaborative relationships with top universities. For ten consecutive years, SPIL has co-organized the University Corporate Mentors program with the National Chung Hsing University. The program organized activities such as; challenges in the semiconductor engineering workforce forum, production line tours, mentor-mentee dinners, forum on graduate students' work life experiences, and the Team Silicon Adventure competition, for students to gain insights into industry dynamics and explore career interests. SPIL's program encourage greater student participation and engagement, and directly help to attract outstanding talents and prepare students for employment. In 2023, a total of 296 students participated in the University Corporate Mentors program, accumulating 1,569 hours of participation. In addition to providing students with knowledge and opportunities in the OSAT industry, the program serves as a means for the industry to contribute to schools and society.

SPIL has been engaged in a collaborative partnership with National Chung Hsing University since 2016 to conduct courses on semiconductor materials and manufacturing processes. The main objective of this initiative is to improve the expertise of local semiconductor professionals by providing students with practical skills, and attracting talented students to join the semiconductor sector. SPIL has since expanded its academic programs to Feng Chia University and National Chi Nan University in 2022 and 2023 respectively. In addition to engaging with universities to offer courses on semiconductors, we also send senior employees from the company to be guest lecturers to offer first hand expert perspectives on the latest in technology and industry landscape. In 2023, 124 students attended the course, recording a total of 4,698 hours of class participation. SPIL is committed to a sustainable educational framework that provides students with diverse learning opportunities, bridging the gap between theory and practice.

University Corporate Mentorships

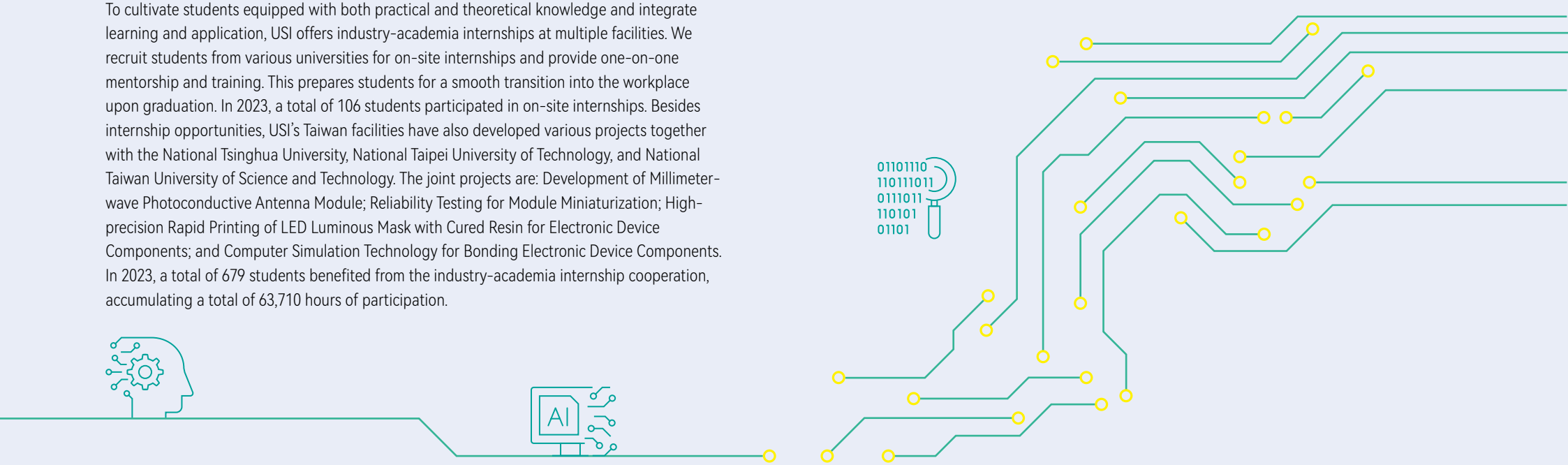
USI Industry-Academia Collaborations and Internships

Employee education, training and transfer of skills rank highly at USI. To that end, the USI University was established in 2006 to provide free courses covering corporate experiences, management knowledge and the latest technology and industry trends. The USI University actively collaborates with industry and public associations, and universities and provides internally trained instructors to design the courses.

The USI University offers a wide range of courses that include the sharing of ESG practices, labor relations in corporate development, DISC Personality Assessment and communication management, Eight Disciplines of Problem Solving (8D), and the seven basic quality tools. Additionally, USI organizes career planning courses that offer students practical experience in the workplace environment. In 2023, USI University shared a total of 20 courses, with a cumulative duration of 1,392 hours, contributing to the enhancement of youth employability.

To cultivate students equipped with both practical and theoretical knowledge and integrate learning and application, USI offers industry-academia internships at multiple facilities. We recruit students from various universities for on-site internships and provide one-on-one mentorship and training. This prepares students for a smooth transition into the workplace upon graduation. In 2023, a total of 106 students participated in on-site internships. Besides internship opportunities, USI's Taiwan facilities have also developed various projects together with the National Tsinghua University, National Taipei University of Technology, and National Taiwan University of Science and Technology. The joint projects are: Development of Millimeter-wave Photoconductive Antenna Module; Reliability Testing for Module Miniaturization; High-precision Rapid Printing of LED Luminous Mask with Cured Resin for Electronic Device Components; and Computer Simulation Technology for Bonding Electronic Device Components. In 2023, a total of 679 students benefited from the industry-academia internship cooperation, accumulating a total of 63,710 hours of participation.

USI University



8.4 Community Engagement

Fostering a close relationship with people and the community is integral to ASEH's corporate sustainability development. We are highly focused on Community Development, Charitable Care, Emergency Assistance and Cultural Development to engage with the local communities where we operate and to promote a more diverse and inclusive society. Over the years, we have initiated programs to assist and support disadvantaged groups, long-term care for the elderly, children and youth, and business start-ups business owners. To facilitate our interaction with the community, we have also established a platform that stimulates communication between us, the local community and the general public.

ASEH's community welfare initiatives are executed through the ASE Charity Foundation, the ASE Cultural and Educational Foundation, and the Chang Yao Hong-Ying Social Welfare and Charity Foundation. The impacts of our efforts are further magnified through the addition of partner networks and various resources. In 2023, we contributed over US$3.1 million for community engagement activities. We provided afterschool care for 222 students and financial assistance to 9,393 students from disadvantaged families, and made donations to 73 charities. ASEH strives to construct a conducive learning and living environment for all, expanding our influence on society and creating an environment that thrives on coexistence and integration.

	2020	2021	2022	2023
Community Engagement[1]	US$1.6 million	US$3.4 million	US$2 million	US$3.1 million
Beneficiaries	About 8,200	About 9,200	About 9,500	About 9,600
No. of students from disadvantaged households receiving afterschool care	316	254	263	222
No. of students from disadvantaged households receiving financial aid	7,879	8,963	9,281	9,393

[1] ASEH's facilities in Taiwan (Taoyuan City, Hsinchu County, Taichung City, Changhua County, Nantou County, and Kaohsiung City), U.S.A., China, South Korea, Japan, Malaysia, Singapore, Vietnam, and Mexico are all actively involved in various levels of community engagements

ASEH Social Innovation Competition

In 2023, ASEH held the ASE Social Innovation Competition in partnership with National Taiwan University (NTU) Entrepreneurship Center, the Social Innovation Lab, and a number of new startups. The objective of the competition is to motivate and support the growth of start-ups, focusing on the areas of energy conservation and carbon reduction, circular economy, social welfare, and environmental protection. We offered a total prize money of NT$ 2.15 million and a pledge to work with the winning teams to support entrepreneurship and promote social innovation and development to promote diversity, innovation, and the power of synergy.

Amongst the submissions for the competition (more than 70), Monster Environmental Tech's stood out with its development of a BIO-BSF System to address ASE's waste treatment needs. Subsequently, we adopted Monster's BIO-BSF System to remove sludge and food waste, both byproducts of our operations and manufacturing process. We will deploy Monster' innovative system across our facilities as well as the upstream and downstream supply chains to help with waste reduction, greenhouse gas emissions control, and accelerating the path to a circular economy.

We are also keeping tabs with the winning teams of the 2022 ASE Women's Sustainable Innovation Talent Competition. Throughout the year, we provided individual support to these teams and engaged industry experts and academia to provide guidance and assistance to help them innovate and expand business opportunities. Each team will then present their achievements over the year after intensive mentoring is concluded and demonstrating their progress towards commercializing their ideas and solutions through ASEH's sponsorships.

ASEH Social Innovation Competition: Briefing Session

ASEH Social Innovation Competition: Final Selection

ASEH Social Innovation Competition – Winners

Prize	Winning Team	Project Name
1st Place - NT$1 million	Monster Environmental Tech	Development of a first of its kind, cutting edge technology (aka 'black technology') for the treatment of food waste and sludge: a highly-efficient and integrated carbon-neutral biological treatment
2nd Place- NT$600,000	PackAge+	ASE co-branded sustainable products and green packaging materials
3rd Place- NT$400,000	FanC Recycling International	The circular economy of Guantian "Black Gold"

SPIL: Supporting students at Heping Elementary School in the outskirts of Taichung

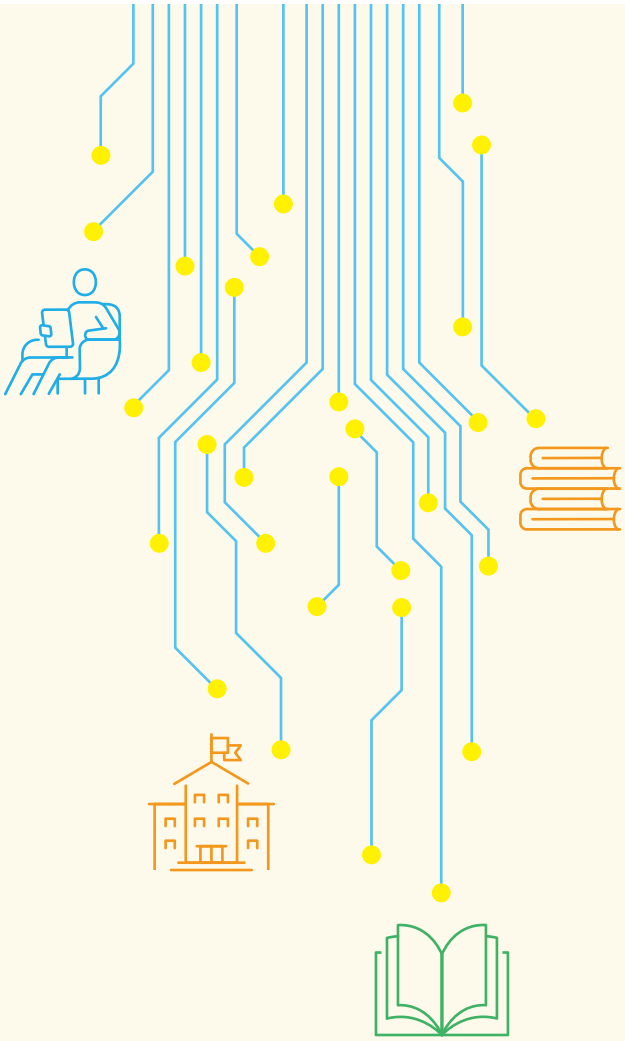
For many years, SPIL has been supporting rural schoolchildren near the Taichung Facilities. Over the past 17 years, the company has given annual donations to Heping Elementary School, and also funded programs to improve the learning environment and subsidize afterschool care programs.

In the remote and mountainous areas of Taiwan, elementary schools have to grapple with the challenges of an uncertain academic pathway and a lack of prospects for students after they graduate. On the other hand, the conditions surrounding the mountainous regions have naturally contributed to the high level of endurance and athletic abilities of students at Heping Elementary School. Hence, the school decided that building a strong Taekwondo team would help to increase the chances of students getting accepted to a junior high school Taekwondo team, and subsequently enrolled in senior high schools based on their athletic talents. In support of this endeavor, SPIL promptly donated protective gears, kicking targets, floor mats, and other equipment to assist in the establishment of a Taekwondo club.

On April 15, 2023, 44 students from Heping Elementary School participated in a beach cleanup at Taichung's Daan Marina Park, together with more than 600 SPIL employees and their family members. The activity aims to drive greater understanding of the importance of environmental sustainability and marine protection. SPIL's support for the school has not only touched the students from the Taekwondo club, but also provided those involved in the beach cleanup, a great opportunity to experience the beauty of the seas. The school and the students were very happy to share their achievements from the programs.

Over the years, SPIL has been actively supporting Heping Elementary School to ensure a healthy and progressive learning environment for the children. SPIL has organized a variety of activities, such as trips to Taipei EXPO Park, SPIL Family Day and Theme Park Day, concerts, baseball games, galas, marathons, and Christmas celebrations. SPIL supplied tablets to enable online learning during COVID-19 lock downs; installed LED lighting to create a well-lit, healthy learning environment; and provided sports equipment made of sustainable materials such as basketballs and yoga mats.

SPIL sponsorship of Taichung Heping Elementary School: Taekwondo club performs on Beach Cleaning Day



Opening the windows to the world through reading—Philanthropic Library

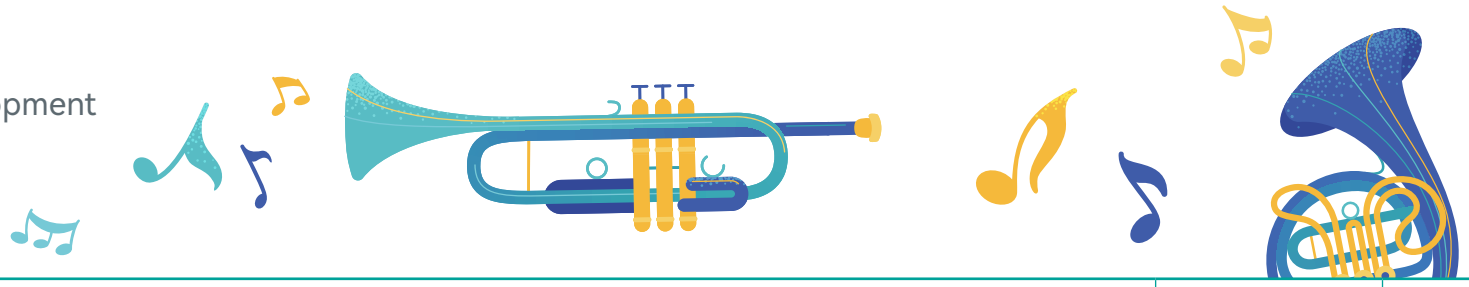
USI, a subsidiary of ASEH, has been making an annual contribution of around NT$500,000 since 2005, in support of the Philanthropic Library project launched by the Taiwan Reading and Culture Foundation for the purchase of cultural reading materials. The objective of the project is expand the horizon of young minds, and foster their interest in reading from a very young age. In 2023, USI collaborated with the ASE Cultural and Educational Foundation to donate twenty cartons of books each to Hu-Shan Elementary School in Caotun Township, Nantou County, and Zhongxiao Elementary School in the Taichung Western District. These schools are located near USI's Nantou Facilities. We have since accumulated a donation of 807 cartons of books in total, providing easy access to reading materials for students living in the rural areas and improving their reading skills. We recognize that social improvements and impacts can only be achieved by persistent and sustained commitment that goes beyond providing financial and material assistance.

We are also aware that different age groups require different approaches to encourage reading. Therefore, in addition to book donations, we work together with the Taiwan Reading and Culture Foundation to host the Parent-Child Reading, Meet the Writer, and Fun Magic in the Mist events. These initiatives help us increase our involvement in local education and cultivate schoolchildren's interest in the fields of science and reading. A total of six events were held in 2023. For preschoolers and those in the lower grades of elementary school, the family is the source of their enlightenment. To that end, we held two exciting and enjoyable Parent-Child Reading events with the aim of fostering a passion for reading among young readers, while also cultivating an interest in learning and expanding their horizons. In addition, we organized two Fun Magic in the Mist events for students in elementary, junior high, and senior high school to explore science through practical experiments, and to comprehend and validate physics principles through sensory experiences, all under the guidance of teachers. Two Meet the Writer events were held in which authors visited schools to provide students with unique insights into their books by sharing their experiences in writing and illustrating their works.

Philanthropic Library: Parent-Child Reading Event

We continue to apply the social return on investment approach to measure and evaluate the impacts that the Philanthropic Library has on students and children. We discovered that 76% of primary school students reported that participation in the Fun Magic in the Mist events led to an increase in their scientific knowledge, while 73% of parents who participated in the Parent-Child Reading event believed that it improved the quality of reading for their families. Based on the analysis of the results through comprehensive calculation, a social value of NT$5.87 was generated for every NT$1 invested in the Philanthropic Library.

2023 Taiwan Cultural Development Support Project Summary



Project	Content	Supported Unit	Amount (US$)
Short films on Chinese culture	The animated YouTube series 'When a TV Anchor Meets the Ancients', was created in collaboration with Unique Satellite TV (USTV) station, and focused on Chinese history and culture to promote Chinese moral principles and ethics. The first episode, 'Lin Xiangru' and second episode, 'Sima Qian' are now available on the official websites of the ASE Cultural and Educational Foundation and USTV, as well as on YouTube.	ASE. ASE Cultural and Educational Foundation	13,717
Short films on Western art history	In collaboration with TVBS, we produced the series 'Journey to the Fantastic World of Western Arts', focusing on architecture, paintings, music and dance. The series was broadcast on the official websites of the ASE Cultural and Educational Foundation and TVBS, as well as on Facebook and YouTube. Episode 1: Explore the Beauty of Architecture through Travel Episode 2: The Allure of Enchantment: Magical Melodies Episode 3: Appreciating Classical Paintings through Modern Reinterpretations Episode 4: An Artistic Fusion of Painting and Dance	ASE. ASE Cultural and Educational Foundation	54,866
Creation of arts and culture maps for Taiwan	We collaborated with Smile Taiwan magazine, an affiliate of Common Wealth Magazine, to promote Taiwan's cultural attractions. By documenting Taiwan's cultural heritage and creating the culture maps, we were able to present these distinctive local arts and cultural attractions in a series of short films and graphic illustrations on a variety of themes that have been broadcast on Smile Taiwan's official websites, the ASE Cultural and Educational Foundation's Facebook account and YouTube channels, and the Culture Tours' website. The project received a certificate of appreciation from The Kaohsiung City Government. Episode 1: Taiwan Pineapple Museum Episode 2: Kaohsiung Museum of History Episode 3: Taiwan Veteran Village and Cultural Park Episode 4: Qishan Railway Station Episode 5: Hongmaogang Cultural Park Episode 6: The Pier 2 Art Center	ASE. ASE Cultural and Educational Foundation	48,988
ASH philanthropic concerts	In a joint effort with various organizations, we hosted a music concert to raise funds for charities on November 5, 2023. The ASE Cultural and Educational Foundation pledged to match the amount of total donations received during the event, which went to 15 charity organizations. There event recorded a total of 424 participants.	ASE. ASE Cultural and Educational Foundation	42,456
Music concerts for the elderly	On December 20, 2023, we invited several music groups to perform at two concerts for the elderly, at the Fuxing Fuhua Citizen Center in Zhongli and at the Jia An Elderly Long-term Care Center in Taoyuan City. The concerts attracted a total of 100 participants.	ASE. ASE Cultural and Educational Foundation	1,633
National Theater and Concert Hall Senior Citizen's Program	Sponsor of the National Theater and Concert Hall Senior Citizen's Program: Dementia-Friendly Theatrical Workshop: In the workshop, experts discussed their experiences utilizing the performing arts as a medium and instrument for supporting a dementia-friendly society. The workshop recorded a total of 250 participants. Pioneer project on Performing Arts as a Social Prescription: The project involved seniors aged 55 and older in arts and cultural activities, that helped improve their physical and mental health through the social connections. The initiative attracted a total of 260 participants.	ASE. ASE Cultural and Educational Foundation	16,329
Changhua City Office cultural activities	We provided sponsorships for a series of cultural events organized by the Changhua City Office from July 2023. These include the Changhua City Orchestra Concert, Changhua City Outstanding Father Awards, Dance under the Midsummer Starry Sky, Changhua City Chinese Orchestra Concert, and the 2024 New Year's Eve Celebration. We supported such events to encourage cultural participation, enhance community development, and expand the promotion of the arts. To date, we recorded a total of 3,683 beneficiaries.	SPIL. ASE Cultural and Educational Foundation	32,658

Project	Content	Supported Unit	Amount (US$)
National Day fireworks and cultural performances in Taichung	We sponsored the National Day Fireworks Show and two nights of cultural events at the Taichung Central Park. Renowned local and international jazz bands, local artistes and groups, and the Taichung youth groups were invited to perform at the events, which featured dance, orchestral music, and traditional Chinese music. The events attracted 390,000 participants.	SPIL. ASE Cultural and Educational Foundation	11,430
The Haifeng Cup National Go Tournament	We sponsored Go tournaments in northern, central, and southern Taiwan from October 14 to 22, 2023, to promote the Go game culture, while providing an interactive social platform for senior Go players in to compete and win awards. There were a total of 600 applicants for the tournaments.	SPIL. ASE Cultural and Educational Foundation	16,329
Supporting the growth of Taichung Zhongshan Hall	We sponsored a series of activities organized by the Taichung City Government, including 'Art go go' and 'Let Dreams Fly. Art for All'. Top performers from across the country gave 17 concerts between September and December 2023, that provided Taichung residents with an enjoyable experience of music and the arts. On November 11, 2023, we sponsored the hip-hop final of the Fifth Zhongshan Hall Youth Competition LIVE Show.	SPIL. ASE Cultural and Educational Foundation	9,798
Taichung Your-music Chinese Orchestra	We sponsored the Your-music Chinese Orchestra's 2023 annual concert "The Ten Years" at Taichung Zhongshan Hall, that recorded a total of 860 participants.	SPIL	980
Guided Tour of the National Museum of Natural Science for Rural School Children	We organized guided tours for students from She-Liao Elementary School and Li-Yu Elementary School in Nantou to visit the National Museum of Natural Science and expand their knowledge of and interest in science. The total number of participants is 150.	USI. ASE Cultural and Educational Foundation	3,266
Philanthropic Library	To foster children's reading habits and interest in science, we donated 20 cartons of books each to the Zhongxiao Elementary School in Taichung West District and Hushan Elementary School in Caotun Township, Nantou County. In addition, we organized 2 Meet the Writer events, 2 Parent-Child Reading events, and 2 Fun Magic in the Mist events in Nantou County, attracting a total number of 729 participants.	USI. ASE Cultural and Educational Foundation	16,329
Cloud Gate Dance Theater Annual Tour	We provided sponsorships for eight touring performances by the Cloud Gate Dance Theater in Taiwan from October 12 to November 5, 2023. The concerts were open to USI suppliers, employees, and their families, to promote the arts and culture, and to raise the standards in humanities and culture across the Company. The total number of participants involved is 234.	USI. ASE Cultural and Educational Foundation	32,658
Caotun Straw Craft Cultural Festival-Performance by the Ming Hwa Yuan Arts & Cultural Group	USI sponsored the Caotun Straw Craft Cultural Festival and invited the Ming Hwa Yuan Group to perform at the Caotun Zhongshan Park on December 9, 2023. The event attracted 2,100 participants.	USI. ASE Cultural and Educational Foundation	30,927
USI Art Gallery exhibitions	The USI Art Gallery collaborated with the Chiu-Chiu Fine Arts Association in Caotun Township to hold solo and group art exhibitions at the factory. These exhibitions enhanced the creative atmosphere within the facility and provided a platform to promote the artists' works.	USI	1,960
Collection of award winning Artworks – the Nantou County Yushan Art Awards	USI supports the arts and culture community by collecting works from local artists and exhibiting them at the facilities for employees to view and appreciate.	USI	2,057
"Focus on the World" project by the Eastern Media Group	We sponsored the Eastern Media Group's production of "Deep Blue Melancholy" and "Guardians of the Earth," two environmental episodes in the Focus on the World project that aired on the Eastern Broadcasting Company channel in 2023 and 2024.	ASE. ASE Environmental Protection and Sustainability Foundation	65,317
Total			401,698

8.5 Public Advocacy

Public Advocacy and Management Framework

As a leading global provider of semiconductor assembly and testing services, ASEH strives to be an active participant in both domestic and international non-profit organizations with links to the industry. Our goal is to advance the semiconductor industry through joint efforts with the international community. We are fully committed to promoting initiatives and work relevant to our core business focus and areas of sustainable development (environmental, social, and economic aspects). These include climate change, net zero emissions, corporate sustainability, industrial development, technological innovation, environmental engineering, human rights, and supply chain.

The ASEH Public Affairs Engagement policy acts as a guideline for the company's participation in society and the community. Dtuang Wang, Chief Administration Officer (CAO) of ASEH, leads the Social Involvement Task Force (reporting directly to the CEO), and is responsible for executing the company's public affair strategies and plans. The CAO provides a status report to the Corporate Sustainability Committee (CSC) annually. The CSC is the highest level of management responsible for the strategy and supervision of the company's sustainability development, and is comprised of board directors and the head of corporate governance. The CSC oversees the progress and execution of public affair plans, budget, results, ascertains the level of participation in lobbying and public advocacy, and provides regular reports to the board of directors. In 2023, ASEH was active in over 140 external organizations. We contributed US$0.9 million in public advocacy, including US$0.79 million for policy influence and US$0.11 million for sponsoring media to conduct sustainability-related education and promotional activities. Through these efforts, allowing ASEH to share our value system with industry peers and supply chain partners, and extend a broader social impact.

Participation in Major Trade Associations in 2023:

Association	Major Activities	Resources invested (US$)
Semiconductor Equipment and Materials International (SEMI)	The SEMI is a global electronic manufacturing supply chain industry association, with over 3,000 members. ASEH is actively involved in public policy initiatives and highly supportive of international SEMI events, the promotion of collective interests, and the focus on education, business, technology and sustainable development. As a member of SEMI for over 2 decades, ASE has gradually stepped up and taken the leadership to drive impactful agendas and direct the industry towards achieving common goals. We have undertaken important roles in many of SEMI's committees, serving positions such as the vice chairman of the International Board of Directors' Executive Committees, chair of SEMI Taiwan Packaging and Testing Committee and honorary vice chair of SEMI Taiwan Smart Manufacturing Committee. We are also a member of the MEMS & SENSORS Committee, High-Tech Green Manufacturing Committee, Semiconductor Materials Committee, FlexTech Committee, Test Committee, Semiconductor Cybersecurity Committee, and Sustainable Manufacturing Committee. The key SEMI initiatives of 2023 are as follows: 1. SEMI Semiconductor Climate Consortium (SCC). ASE is a founding member of the SEMI Semiconductor Climate Consortium, established in November 2022. The SCC is the first global consortium formed by companies across the semiconductor value chain to accelerate the ecosystem's reduction of greenhouse gas emissions. By the end of 2023, the SCC had garnered the participation of over 85 founding corporate members. SCC member companies pledge to support the goal of limiting global warming to 1.5℃ as stipulated by the Paris Agreement and related protocols. The SCC released its first white paper on greenhouse gas emissions in the semiconductor industry ecosystem. The white paper provided detailed analyses of the carbon footprint across the semiconductor value chain that is useful for the industry to continuously develop ways to reduce the industry's greenhouse gas emissions. At COP28, SEMI announced the establishment of the SCC Energy Collaborative (SCC-EC), with 10 founding members including ASE and TSMC. The EC is dedicated to understanding and clearing roadblocks to the installation of low-carbon energy sources in the Asia-Pacific region. The EC will provide a consolidated view of priorities for low-carbon energy in the region, helping the industry to achieve Net Zero goals. 2. Promotion to diversity, equality, inclusion and respect (DEIR). DEIR topics are rising in greater importance at the work place and representation of women in particular stands out. As a SEMI board member, ASE has pushed for the development of robust actions to promote and strengthen women in management and leadership roles across the industry. We also joined SEMI Foundation which is aimed to provide support for workforce development and diversity, equity and inclusion in the semiconductor industry. ASE was elected as a member of SEMI Foundation's Board of Trustees in 2022. We will continue to promote DEIR at the work place and solve workforce challenges and support economic equity. 3. Flexible hybrid electronics (FHE) measurement standards. The SEMI Flexible Hybrid Electronics Standards Technical Committee published the first 3 global FHE measurement standards; SEMI FH1, SEMI FH2, and SEMI FH3. These global standards are once again formulated by the Taiwan industry since SEMI E187 (Specification for Cybersecurity of Fab Equipment). The standards cover various applications including smart wearables, smart healthcare, and smart mobility, which account for 65% of the total market value of FHE. 4. SEMICON Taiwan 2023. The event recorded a gathering of 950 exhibitors with 3,000 booths and attracted more than 62,000 visitors. More than 25 international forums were held over the course of the three-day exhibition, covering major industry trends including advanced manufacturing processes, heterogeneous integration, materials innovations, compound semiconductors, automotive chips, smart manufacturing, semiconductor cybersecurity, sustainability, talent development, and quantum technologies. ASE executives provided expert industry and technology perspectives at the Master Forum (Keynote Speaker), Silicon Photonics Forum (Moderator), Semiconductor Women's Panel (Speaker), and Heterogeneous Integration Summit (Moderator, Speaker).	138,000

Association	Major Activities	Resources invested (US$)
Taiwan Semiconductor Industry Association (TSIA)	ASE Inc. is a founding member and board director of the TSIA, and chairs the EHS packaging and testing committee. As a member of the association, ASE participates actively in discussions on sustainability topics and prepares recommendations to government agencies for formulating policies and regulations that affect the semiconductor packaging and testing industry. The key initiatives and programs promulgated by TSIA in 2023 are as follows: 1. Regulatory policy discussion and advocacy. We participated in the policy discussion of air pollution control and emissions standards for the semiconductor manufacturing industry. With reference to the 'mandatory installation of equipment for the continuous automatic monitoring of stationary pollution sources in public and private premises, and the mandatory reporting of monitoring results to the competent authorities', we advocated for the 1.3 kg set-up threshold, exempting the packaging and testing industry from excessive installations. The exemption resulted in a reduction of installation costs by approximately NT$2.5 million and operating costs by approximately NT$1 million per factory. Additionally, we established an action plan for greenhouse gas emissions control; participated in the drafting and review of industrial waste disposal policies; and provided the latest global semiconductor industry laws and regulations to devise early response plans, reducing impact to the industry. 2. GHG verification. Received a written statement for the completion of a joint-GHG verification based on CNS 14064-1, meeting customer requirements and government regulations; contributed to a GHG report on the GHG emissions data by the semiconductor industry in Taiwan, demonstrating TSIA's commitment to managing and reducing emissions. 3. Supplier guidance and assessments for waste disposal vendors. According to the newly revised Articles 4 and 5 of *Regulations Governing Determination of Reasonable Due Care Obligations of Enterprises Commissioning Waste Clearance*, companies are obligated to entrust relevant associations and societies to assist with the management procedures. 4. Revision of rules for packaging and testing-related services and products. We held six stakeholder discussion meetings to gather industry opinions. On November 2023, we completed the second edition of the Environmental Product Declaration (EPD) for Integrated Circuit Packaging and Testing Services.	88,000
Taipei Computer Association (TCA)	The TCA was established in 1974 to promote the development of Taiwan's information technology industry. In addition to hosting industry exchange activities, the association regularly organizes major domestic IT exhibitions and participates in international exhibitions. As a member of the association, we exhibited at the 2023 Kaohsiung Smart City Summit & Expo organized by the TCA. The event, centered on digital and green transformation, was expanded in scope to include innovative applications in smart energy, smart transportation, smart buildings, sustainable green energy, and 5G AIoT that can be used to build a complete ecosystem for smart cities and the Internet of Things (IoT). The event attracted city officials, telecom operators, system integrators, IoT service providers, solution providers, and professional users from around the world. It boasted a total of 165 exhibitors and 550 booths. During the three-day-long exhibition, 20 professional forums were held, attracting over 30,000 professionals. The theme of our exhibit was "smart factory × sustainable net zero" where we highlighted our net zero journey through smart factory/buildings, smart energy savings, smart water management, and circular economy.	46,000
Global Semiconductor Alliance (GSA)	The GSA provides a neutral collaboration platform for the semiconductor, software, solution, system, and service ecosystem, bringing together industry leaders from over 25 countries and 300 companies. The members include startups in the semiconductor industry as well as industry powerhouses and technology leaders. The GSA organizes global and regional semiconductor-related technology and marketing activities for members opportunities to network and exchange information on the latest industry trends. It offers members access to a comprehensive semiconductor research database that includes information such as technological developments, market reports, company data, and industry surveys. The GSA hosts the GSA Annual Awards to recognize outstanding leaders, women, and companies across the industry. As a member of the association, ASE actively supports and sponsors GSA events, working with its international partners to promote the development of the semiconductor industry.	46,000
Institute of Electrical and Electronics Engineers (IEEE)	The IEEE is the world's largest technical professional organization dedicated to advancing technology for the benefit of humanity. Through its highly cited publications, conferences, technology standards, and professional and educational activities, IEEE is the trusted voice in a wide variety of areas ranging from aerospace systems, computers, and telecommunications to biomedical engineering, electric power, and consumer electronics. As a member of IEEE, ASEH actively engage with members of the international community on the latest technological trends and attend conferences and professional activities. In 2023, a global survey of 350 CIOs, CTOs and IT directors by the IEEE concluded that Artificial Intelligence in its many forms will be the most important area of technology in 2024, followed by XR, cloud computing, 5G and Electric Vehicles. The survey covered technology leaders from the United States, the United Kingdom, China, India, and Brazil.	45,000

Lobbying and Participation in Trade Associations on Climate Alignment

Addressing climate change is a top priority for ASEH. To that end, we have formulated the Corporate Sustainability and Citizenship Policy[1], to help the company meet its climate goals, improve and protect the environment. We will adopt climate mitigation and adaptation strategies, expand the reuse of resources and reduce GHGs emissions, wastewater, waste, and the use of chemicals. We have established clear Net Zero targets and pathways in alignment with the Paris Agreement. In 2021, our targets of well below 2℃ for scope 1 and 2, and below 2℃ for scope 3 by 2030, were submitted and validated by SBTi. Our next plan is to meet the 1.5℃ target and achieve SBTi's recommendation of Net Zero 2050.

Internally, the company has established a robust action plan towards Net Zero which is further augmented by active involvement in external organizations or associations on climate change. We are also heavily involved in public advocacy to help policy makers understand our industry and to make recommendations in support of Taiwan's pathway to Net Zero.

Management System for Climate Lobbying Activities and Trade Associations

We have established a management system that covers the global sites of ASEH and the three major subsidiaries to ensure that our lobbying activities and participation in trade associations comply with our corporate policies on sustainability and climate change, and aligned with the goals of the Paris Agreement.

Direct Lobbying

ASEH is fully committed to support government policies that align with the Paris Agreement. With regard to political donations, ASEH is obligated to comply with Article 7 of the Taiwan Political Donations Act that prohibits donations from companies where more than 30% of the shares are held by foreign citizens or corporations. As foreign citizens and corporations hold more than 30% of ASEH shares, our engagement with the government is mainly conducted through participation in trade associations where we advocate for policies and provide recommendations.

We comply strictly with local lobbying regulations when initiating lobbying campaigns. ASEH management procedures for lobbying are as follows:

1. The purpose must align with ASEH's policies on sustainability and climate change, and the Paris Agreement.
2. The lobbying campaign must first be evaluated by the Social Involvement Task Force and submitted to the ASEH Corporate Sustainability Committee for final approval.
3. The Social Involvement Task Force is responsible for tracking progress, and updating the progress and outcome to the CSC.
   (1) If the regulations, policies, and bills meet the goals of the lobbying objectives, the campaign shall be continued.
   (2) If the regulations, policies, and bills partially deviate from the lobbying objectives, a negotiation process shall commence to steer the campaign back on track.
   (3) If the regulations, policies, and bills completely deviate from the lobbying objectives, the campaign shall be cancelled.
4. The CSC is obligated to report the status regularly to the board of directors.

[1] ASEH Corporate Sustainability and Citizenship Policy (https://www.aseglobal.com/en/pdf/2022_aseth_corporatesustainabilityandcitizenshippolicy.pdf)

Trade Associations

ASEH plays an active role in climate organizations and associations. We also take up leadership and consultative roles in various committees within the associations. ASEH's management procedures for trade association and engagement are as follows:

1. Evaluating trade associations that are irrelevant to mitigating climate change:
   (1) Assessing global trade association performance through membership.
   (2) Identifying organizations with missions closely associated to climate change mitigation and/or the Paris Agreement, or actively advocating, promoting awareness, campaigning, or lobbying on climate related issues.
2. Evaluating and monitoring our engagement with, and activities of trade associations to ensure compliance with climate change mitigation and the Paris Agreement.
   (1) Annual assessment of participating climate-focused trade associations.
   (2) Evaluating the public stance of trade associations in supporting the Paris Agreement including below 2℃ or 1.5℃, Net Zero 2050, energy-saving and carbon reduction.
   (3) Evaluating the activities and actions of the trade associations, to ensure that public statements, promotional activities, educational training, initiatives, and policy proposals, support and comply with the Paris Agreement.
   (4) Classifying associations into those who comply with the Paris Agreement and those who do not. We would continue to engage with the former while taking other measures for the latter.
3. For trade associations that fall short of ASEH's expectations,
   (1) We would engage in discussions to seek alignment within 2 years, and would cancel our membership if alignment fails.
   (2) We would cancel our membership with associations that do not align with our climate policies and goals.

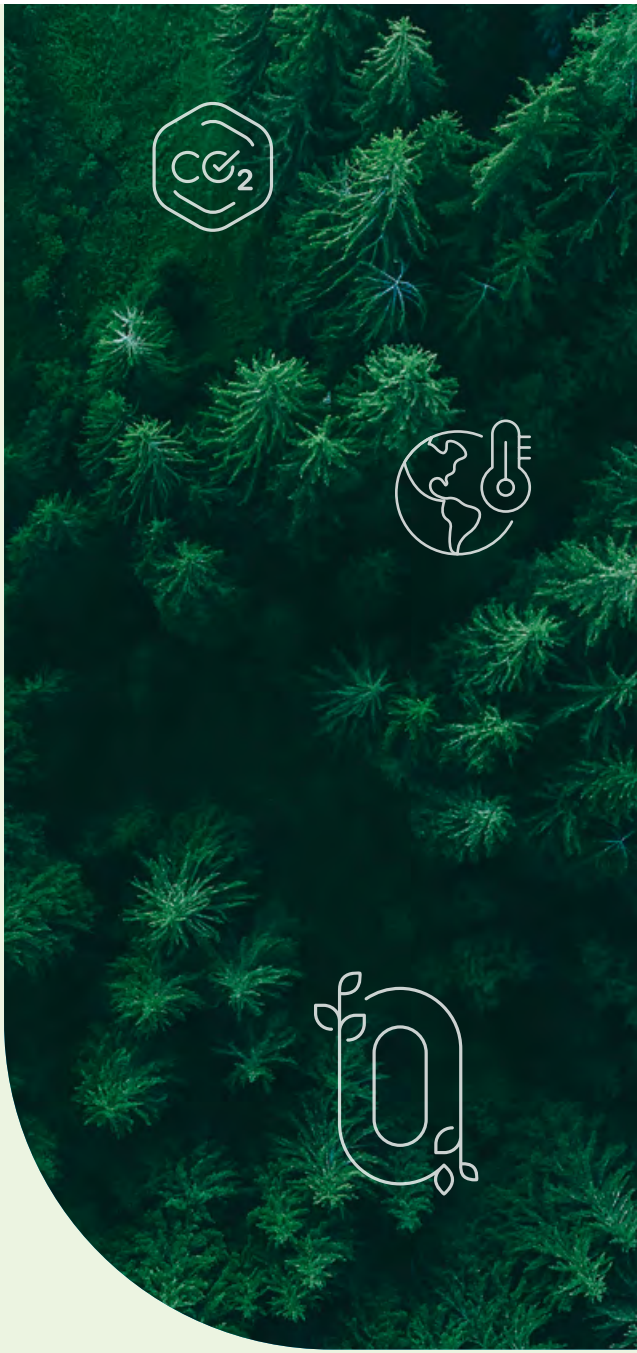
2023 Evaluation Results

Direct Lobbying

ASEH did not conduct any direct lobbying in 2023.

Trade Associations

In 2023, ASEH recorded participation in 140 trade associations covering a wide scope including climate change, technology and R&D, labor rights, supply chain, industry development, commercial operation and investment, auditing, legal, environmental protection, sustainable development, and human rights. Among the 140 associations, 15.7% or 22 are focused on climate change, and are closely assessed by ASEH through our Trade Association Management Framework.



Number of trade associations in full alignment with ASEH goals : 22

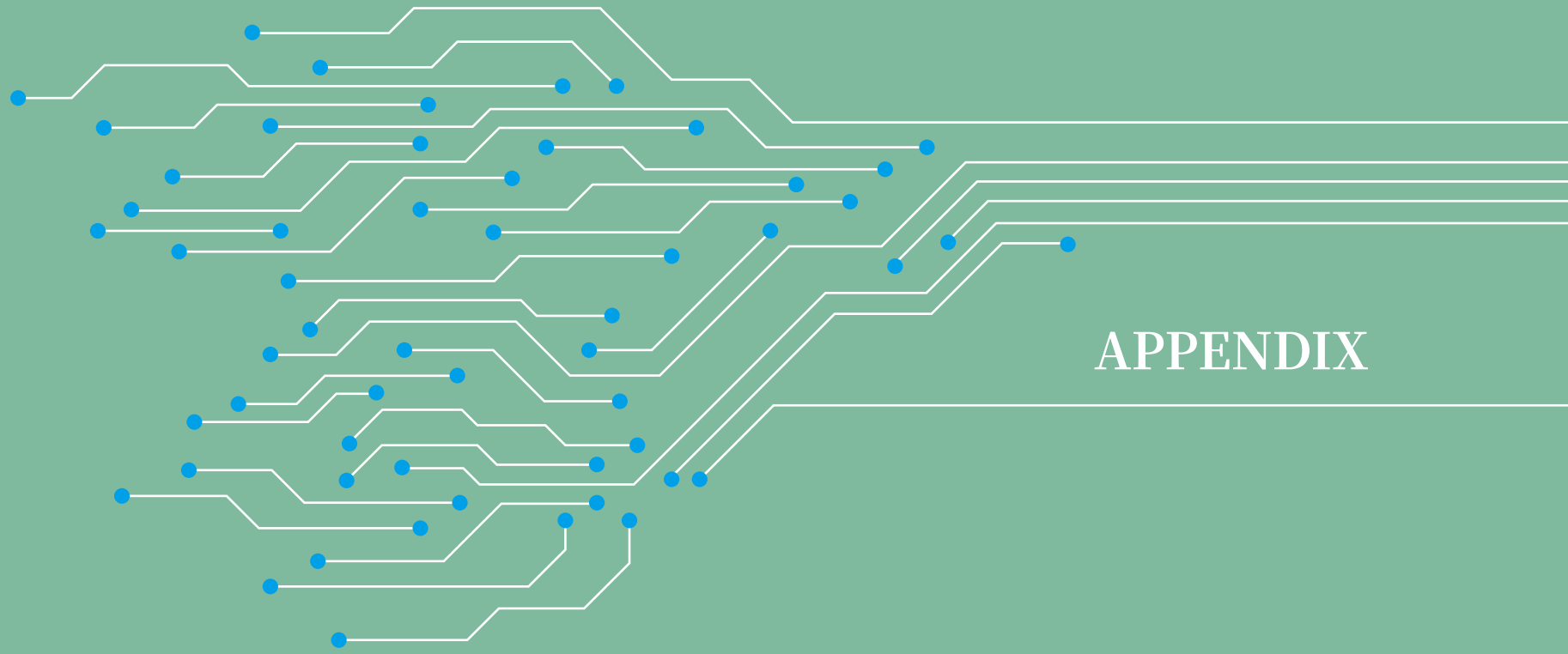
	Name	Remarks on Assessment
1	Institute of Electrical and Electronics Engineers	Recognizes climate risks, supports the Paris Agreement, proposes climate solutions, and organizes conferences on climate change response.
2	Semiconductor Equipment and Materials International	Recognizes climate risks, supports the Paris Agreement, established the Semiconductor Climate Consortium (SCC), and promotes the Pathway to Net Zero through conferences and public advocacy.
3	Shanghai Foreign Investment Association	Recognizes climate risks, established the Green, Low-Carbon Development Branch, and holds energy conservation and carbon reduction conferences and activities.
4	Chinese National Association of Industry and Commerce	Recognizes climate risks, supports the Paris Agreement, and promotes the Pathway to Net Zero through conferences and public advocacy.
5	The Third Wednesday Club	Hosts lectures and speeches related to Taiwan's net-zero policies, and holds conferences to promote the Pathway to Net Zero.
6	Taiwan Semiconductor Industry Association	Recognizes climate risks, supports net zero goals, and holds conferences to promote the Pathway to Net Zero.
7	Taiwan Net Zero Emissions Association	Recognizes climate risks, pledged to help Taiwan achieve net zero, and promote the Pathway to Net Zero through conferences and public advocacy.
8	Taiwan Alliance for Sustainable Supply	Recognizes climate risks, supports the development of a sustainable supply chain, and holds conferences to promote the Pathway to Net Zero.
9	Taiwan Institute for Sustainable Energy	Recognizes climate risks, supports the Paris Agreement, established the Taiwan Alliance for Net Zero Emissions, and promotes the Pathway to Net Zero through conferences and public advocacy.
10	Net Zero Carbon Association	Pledged to help Taiwan achieve net zero, and holds conferences to promote the Pathway to Net Zero.
11	Taiwan Carbon Capture Storage and Utilization Association	Recognizes climate risks, and promotes and holds carbon reduction-related projects and conferences.
12	Taiwan Thermal Management Association	Recognizes climate risks, supports net zero goals, and organizes energy conservation and carbon reduction-related conferences and activities.
13	Taiwan Advanced Automotive Technology Development Association	Recognizes climate risks, supports net zero goals, signed a memorandum of understanding (MOU) with four major associations to enable cross-domain applications of new energy in order to meet ESG carbon reduction trends, and holds conferences to promote the Pathway to Net Zero.
14	Taiwan Telematics Industry Association	Recognizes climate risks, supports net zero goals, and holds conferences to promote the Pathway to Net Zero.
15	Taiwan Electrical and Electronic Manufacturers' Association	Recognizes climate risks, supports net zero goals, provides recommendations for government policies on net zero and energy, and holds conferences to promote the Pathway to Net Zero.
16	Taiwan Transportation Vehicle Manufacturers Association	Recognizes climate risks, releases publications, and hosts conferences to discuss net zero emissions issues.
17	Taiwan Printed Circuit Association	Supports net zero goals, issues low carbon declarations, and holds conferences to promote the Pathway to Net Zero.
18	Taiwan Panel & Solution Association	Recognizes climate risks, supports net zero goals, and holds conferences to promote the Pathway to Net Zero.
19	Taipei Computer Association	Recognizes climate risks, supports net zero goals, and holds conferences to promote the Pathway to Net Zero.
20	Intelligent Transportation Society of Taiwan	Recognizes climate risks, supports net zero goals, and organizes low carbon transportation-related conferences and events.
21	The Business Council for Sustainable Development	Recognizes climate risks, supports net zero goals, and conducts initiatives and promotes the Pathway to Net Zero through conferences.
22	CommonWealth Sustainability League	Recognizes climate risks, supports net zero goals, promotes corporate sustainability development, and conducts initiatives and promotes the Pathway to Net Zero through conferences.

Number of trade associations that are partially misaligned with ASEH goals: 0

Name	Remarks on Assessment
None	None

Number of trade associations that are completely misaligned with ASEH goals: 0

Name	Remarks on Assessment
None	None



APPENDIX

Environmental Data

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

Category	Environmental Performance Index	Unit	2020	2021	2022	2023
Waste	Total general and hazardous waste	ton	75,814	82,158	75,391	**68,657**
	General waste production	ton	45,139	52,618	49,972	**47,965**
	Recycled and reused (without energy recovery)	ton	33,813	41,696	39,245	**38,321**
	Landfilled	ton	1,872	1,976	1,368	**1,114**
	Incinerated with energy recovery	ton	8,442	8,160	8,810	**8,275**
	Incinerated without energy recovery	ton	1,012	786	549	**255**
	Hazardous waste production	ton	30,675	29,540	25,419	**20,692**
	Recycled and reused (without energy recovery)	ton	13,048	14,064	12,963	**11,199**
	Landfilled	ton	870	1,326	0	**0**
	Incinerated with energy recovery	ton	6,740	5,171	5,563	**4,897**
	Incinerated without energy recovery	ton	7,201	7,262	1,864	**819**
	Others	ton	2,816	1,717	5,029	**3,777**
	Total recycled and reused	ton	62,043	69,091	66,581	**62,692**
	Total non-recycled and reused	ton	13,771	13,067	8,810	**5,965**
	Total recycled and reused rate	%	82	84	88	**91**
Water	Water withdrawal	m^3	24,961,039	25,872,192	23,398,956	**21,467,999**
	Water withdrawal intensity	m^3/ US$ thousand revenue	1.468	1.262	1.072	**1.130**
	Ultra-pure water usage	m^3	26,304,664	28,660,692	28,571,562	**28,923,983**
	Water recycled and reuse	m^3	34,437,950	37,817,390	40,121,082	**39,474,668**
	Process water recycle rate	%	72	72	76	**78**
	Wastewater discharge	m^3	19,454,037	19,569,329	17,461,146	**15,386,252**
	Water consumption	m^3	5,507,002	6,302,863	5,937,810	**6,081,747**
	Total fresh water consumption	Million m^3	24.71	24.45	23.17	**20.93**

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

Category	Environmental Performance Index	Unit	2020	2021	2022	2023
Energy	Electricity consumption	MWh	3,900,915	4,285,155	4,233,363	**4,211,006**
	Renewable electricity	MWh	706,105	1,030,137	819,863	**844,044**
	Non-renewable electricity	MWh	3,194,810	3,255,018	3,413,500	**3,366,962**
	Electricity intensity	MWh/ US$ thousand revenue	0.230	0.209	0.194	**0.222**
	Total Renewable energy consumption	MWh	706,105	1,030,137	819,863	**844,044**
	Liquefied Petroleum Gas (LPG)	GJ	16,770	2,273	3,253	**3,340**
	Liquefied Natural Gas (LNG)	GJ	324,214	332,561	333,904	**335,803**
	Motor gasoline	GJ	6,593	5,972	4,863	**5,570**
	Diesel	GJ	73,337	27,231	26,586	**25,925**
	Heavy oil	GJ	32,534	34,703	37,917	**43,460**
	Total non-renewable energy consumption	MWh	3,352,288	3,416,482	3,571,744	**3,536,828**
Green House Gas (GHG)[1]	SCOPE 1	tCO_2e	93,996	90,591	90,993	**75,274**
	SCOPE 2 (Market-based)	tCO_2e	1,658,606	1,612,050	1,671,242	**1,649,347**
	SCOPE 1 + SCOPE 2 (Market-based)[1]	tCO_2e	1,752,602	1,702,641	1,762,235	**1,724,621**
	GHG intensity (Market-based)	tCO_2e / US$ thousand revenue	0.103	0.083	0.081	**0.091**
	SCOPE 3	tCO_2e	19,804,255[2]	15,639,991	13,350,245	**9,891,845**
	PFC emissions / number package output	$kgCO_2e$/kPCs	0.00077	0.00062	0.00091	**0.00073**
Air Emission	VOCs (Volatile organic compounds)	tons	219	262	291	**239**

1 In 2022, ASEH Scope 1&2 emissions is 79.0412 (tCO_2e) and the intensity is 0.00012 (tCO_2e / NT$ million revenue), Scope 3 emissions is 30.3066 (tCO_2e) and the intensity is 0.00005 (tCO_2e / NT$ million revenue), the data for Scope 1/2/3 were verified by British Standards Institution Pacific Limited Taiwan Branch, BSI. As a result of carrying out verification and validation procedures by ISO 14064-3：2019, it is reasonable assurance for verification activity
In 2023, ASEH Scope 1&2 emissions is 65.9175 (tCO_2e) and the intensity is 0.00011 (tCO_2e / NT$ million revenue), Scope 3 emissions is 171.0377 (tCO_2e) and the intensity is 0.00029 (tCO_2e / NT$ million revenue), the data for Scope 1/2/3 were verified by British Standards Institution Pacific Limited Taiwan Branch, BSI. As a result of carrying out verification and validation procedures by ISO 14064-3：2019, it is reasonable assurance for verification activity

2 In 2020, Scope 3 emissions were 19,636,385 (tCO_2e), the data does not include the facilities sold

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	9	0
	Groundwater	4,256	0
	Third-party water	17,203	4,106
Water withdrawals by source of water[3]	Freshwater (TDS ≤ 1,000 mg/L)	19,429	4,090
	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[4](ML)
Water discharge by discharge destination	Surface water	8,794	0
	Groundwater	0	0
	Marine water	826	0
	Third-party water	5,766	3,496
Total water discharge	Surface water + groundwater + marine water + third-party water	15,386	3,496
Water discharge by source of water[5]	Freshwater (TDS ≤ 1,000 mg/L)	372	0
	Other sources of water (TDS > 1,000 mg/L)	2,844	283

Water consumption			
Total water consumption	Total water withdrawals - Total water discharge	6,082	610

[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; (2) USI: Zhangjiang, Shengxia, Jinqiao, Kunshan, Mexico; (3) SPIL: Suzhou
[3] Facilities that measure TDS in the water withdrawal: (1) ASE: Kaohsiung, Chungli, Shanghai (Material), Wuxi, Korea, Singapore, ISE Labs; (2) USI: Kunshan, Taiwan, Vietnam; (3) SPIL: Taiwan, Suzhou; Other facilities are not included in the TDS calculated
[4] Water discharge in water-stressed regions (Stress>40%): (1) ASE: Shanghai Material, ISE Labs China; (2) USI: Zhangjiang, Shengxia, Jinqiao, Kunshan, Mexico; (3) SPIL: Suzhou
[5] Facilities that measure TDS in the water discharge: (1) ASE: Kaohsiung, Japan, Singapore; (2) USI: Zhangjiang, Shengxia; Other facilities are not included in the TDS calculated

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	Min.~Max.	Effluent Standard (Nation)	Min.~Max.	Effluent Standard (Nation)	Min.~Max.
pH	pH	6~9	6~8.1	6~9	7.3~7.9	6~9	6.79~8.2	5.8~8.6	6.6~8
COD concentration[2]	mg/L	100	3.2~66.8	280	4~6.2	500	10~278	160	-
BOD concentration[3]	mg/L	-	1~21	100	0~11.2	300	2.2~68.63	160	0.5~1.5
Suspended Solid (SS) concentration[4]	mg/L	30	1.7~21.5	100	1~7.9	400	6~55	200	1.5~15
Cu^{2+} concentration	mg/L	1.5	ND~0.352	2	0.018~0.386	1	0~0.66	3	-
Ni^{2+} concentration	mg/L	0.7	ND~0.0193	1	0~0.113	0.1	0.002~0.1	-	-

Item	Unit	Korea		Malayisa		Vietnam	
		Effluent standard	Min.~Max.	Effluent standard	Min.~Max.	Effluent standard	Min.~Max.
pH	pH	5.8~8.6	7.0~7.9	5.5~9.0	7.1~7.9	5~9	5~9
COD concentration	mg/L	-	9~10	200	4~16	500	500
BOD concentration	mg/L	80	5.9~23	50	1~2	500	500
Suspended Solid (SS) concentration	mg/L	80	0.32~6.96	100	1~4	500	500
Cu^{2+} concentration	mg/L	3	0~0.02	1	0.05~0.26	2	-
Ni^{2+} concentration	mg/L	3	-	1	0.1	0.5	-

[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, and Mexico) 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 Nankang 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 Nankang 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	2023
Life Cycle Assessment Approach	Full LCAs	% (Percentage of Total Products)	37.78
	Simplified LCAs	% (Percentage of Total Products)	8.46
	Others (green products meet international regulations & customer requirements.)	% (Percentage of Total Products)	53.76
End-of-life products and e-waste	Weight of end-of-life products and e-waste[1]	ton	480
	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]	%	0

E. Environmental issues Training

Topic	Training course description	Total time (Hours)	Total participants
Environmental Management	Training courses include any environmental matters	93,011	185,126
Energy	Training courses include matters related to efficiency management or raising awareness to reduce energy consumption	4,600	1,855
Water	Training courses include matters related to water efficiency management or raising awareness of water conservation	3,743	5,328
Waste	Training courses include matters related to waste management or raising awareness to reduce waste	38,235	42,361

F. Environmental Violations

	2020	2021	2022	2023
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
Describe the board of directors' and management's oversight and governance of climate-related risks and opportunities.	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 Committee 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.
Describe how the identified climate risks and opportunities affect the business, strategy, and finances of the business (short, medium, and long term).	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.
Describe the financial impact of extreme weather events and transformative actions.	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.
Describe how climate risk identification, assessment, and management processes are integrated into the overall risk management system.	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.
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.	The Company has established climate scenarios based on the IPCC AR6 and international energy parameters, taking into account policy, technology, 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.
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.	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.
If internal carbon pricing is used as a planning tool, the basis for setting the price should be stated.	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.
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.	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.
Greenhouse gas inventory and assurance status.	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	47,543	57.26%	4,321	70.92%
China	14,486	17.45%	1,313	21.55%
Philippines	10,345	12.46%	26	0.43%
Mexico	3,467	4.18%	103	1.69%
Malaysia	2,321	2.80%	158	2.59%
South Korea	1,881	2.27%	36	0.59%
Indonesia	1,168	1.41%	1	0.02%
Vietnam	926	1.12%	29	0.48%
Japan	401	0.48%	31	0.51%
Singapore	242	0.29%	58	0.95%
Nepal	156	0.19%	0	0%
Thailand	39	0.05%	0	0%
Myanmar	20	0.02%	0	0%
U.S.A	13	0.02%	8	0.13%
India	12	0.01%	3	0.05%
United Kingdom	5	0.01%	5	0.08%
Canada	2	0.00%	1	0.02%
France	1	0.00%	0	0%
Total	83,028		6,093	

Race [2]	Employee		Management Level	
	Number	Percentage of Total Employee (%)	Number	Percentage of Total Management Level (%)
Asian	139	69.15%	25	62.50%
Hispanic or Latino	27	13.43%	3	7.50%
White	25	12.44%	11	27.50%
Native Hawaiian or Other Pacific Islander	5	2.49%	0	0%
Two or More Races	4	1.99%	1	2.50%
Black or African American	1	0.50%	0	0%
Total	201		40	

[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		11,866	17.90%
		Contract		4	0.01%
	Gender	Male		2	0.00%
		Female		2	0.00%
	Total			11,870	
	Employment Visa	Gender	Male	1,846	2.78%
			Female	9,203	13.88%
	Total			11,049	
Electronic Manufacturing Service (EMS)	Employment Type	Regular		867	5.09%
		Contract		2	0.01%
	Gender	Male		174	1.02%
		Female		695	4.08%
	Total			869	
	Employment Visa	Gender	Male	174	1.02%
			Female	695	4.08%
	Total			869	

C. Employee Information[1]

Employment Category	Gender		Location			
	Male	Female	Taiwan	China	Rest of Asia	Americas
Permanent Employees	41,701	35,609	53,845	12,521	7,258	3,686
Temporary Employees	2,112	3,807	3,876	1,945	96	2
Non-guaranteed Hours Employees	0	0	0	0	0	0
Total	**43,816**	**39,416**	**57,721**	**14,466**	**7,354**	**3,688**
Full-time Employees	43,762	39,379	57,652	14,466	7,351	3,672
Part-time Employees	51	37	69	0	3	16
Total	**43,816**	**39,416**	**57,721**	**14,466**	**7,354**	**3,688**

[1] The employee information: the number of employees still employed as of December 31st

D. Male/Female Employee (by Job Position)

Category	Group	Male		Female	
		Number	Group Percentage (%)	Number	Group Percentage (%)
Position	Management	4,356	71.0%	1,777	29.0%
	Engineering	23,699	86.1%	3,836	13.9%
	Administration	1,872	32.2%	3,938	67.8%
	Skill Job	13,884	31.7%	29,867	68.3%
Management Level	Top Management Positions[1]	679	85.2%	118	14.8%
	Middle management Positions	1,710	79.5%	441	20.5%
	Junior Management Positions	1,533	64.2%	853	35.8%
	Management Positions in Revenue-generating Function	3,580	72.5%	1,358	27.5%
STEM Related Position		27,140	81.7%	6,064	18.3%

E. New Hire Employee

Category	Group	Number	Percentage of Total New Hire Employee (%)
Gender	Male	8,309	59.1%
	Female	5,746	40.9%
Nationality	Native	13,055	92.9%
	Foreign	1,000	7.1%
Disabled	Male	107	0.8%
	Female	54	0.4%
Position	Management	166	1.2%
	Engineering	2,027	14.4%
	Administration	550	3.9%
	Skill Job	11,312	80.5%
Age	<30	9,523	67.7%
	30-50	4,255	30.3%
	>50	277	2.0%
Education	Ph.D	4	0.1%
	Master	413	2.9%
	Bachelor	1,756	12.5%
	Other Higher Education/ High School and Below	11,882	84.5%
Total		14,055	

[1] Top Management Positions: Senior Manager to Senior Vice President

F. Turnover Rate

Category	Group	2020		2021		2022		2023	
		Number	Percentage of Group (%)	Number	Percentage of Group (%)	Number	Percentage of Group (%)	Number	Percentage of Group (%)
Gender	Male	8,485	55.3%	10,339	57.3%	7,319	53.7%	6,518	55.2%
	Female	6,851	44.7%	7,695	42.7%	6,312	46.3%	5,286	44.8%
Position	Management	346	2.3%	433	2.4%	369	2.7%	297	2.5%
	Engineering	3,163	20.6%	3,956	21.9%	3,364	24.7%	2,424	20.5%
	Administration	685	4.5%	843	4.7%	791	5.8%	684	5.8%
	Skill Job	11,142	72.7%	12,802	71.0%	9,107	66.8%	8,399	71.2%
Age	<30	8,840	57.6%	9,995	55.4%	6,738	49.4%	6,080	51.5%
	30-50	6,080	39.7%	7,591	42.1%	6,451	47.3%	5,242	44.4%
	>50	416	2.7%	448	2.5%	442	3.2%	482	4.1%
Education	Ph.D	17	0.1%	21	0.1%	15	0.1%	12	0.1%
	Master	699	4.6%	909	5.0%	739	5.4%	529	4.5%
	Bachelor	3,306	21.6%	6,420	35.6%	3,809	28.0%	2,963	25.1%
	Other Higher Education/ High School and Below	11,314	73.8%	10,684	59.2%	9,069	66.5%	8,300	70.3%
Total		15,336		18,034		13,631		11,804	

G. Full-time Employees in Non-executive Positions

Category	2020	2021	2022	2023	Difference of 2022-2023
Employee[1]	47,753	48,013	50,061	**52,948**	2,887
Average Compensation (NT$)	799,730	914,627	1,001,460	**929,206**	-72,254
Median Compensation (NT$)	670,687	726,063	771,532	**739,048**	-32,484

H. Parental Leave

Category	Group	Number	Percentage of Group (%)	Total
Employees Qualified for Parental Leave in 2023	Male	2,947	65%	4,540
	Female	1,593	35%	
Employees that Applied for Parental Leave in 2023	Male	306	32%	960
	Female	654	68%	
Application Rate (%)	Male	10%		21%
	Female	41%		
Employees Expected to Return to Work in 2023 After Parental Leave	Male	243	31%	779
	Female	536	69%	
Employees Return to Work in 2023 After Parental Leave and Returned as Scheduled or In Advance	Male	205	33%	615
	Female	410	67%	
Return Rate (%)	Male	84%		79%
	Female	76%		
Actual Number of Employees Returned to Work in 2022	Male	204	32%	632
	Female	428	68%	
Employees that Returned to Work in 2022 and Still in Service in 2023	Male	169	32%	525
	Female	356	68%	
Retention Rate (%)	Male	83%		83%
	Female	83%		
NewBorns in 2023		1,853		

[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	3,973,683	53%
		Female	3,475,088	47%
	Total		7,448,771	
	Position	Management	485,280	7%
		Engineering	2,688,117	36%
		Administration	246,902	3%
		Skill Job	4,028,473	54%
	Training Type	Mandatory Trainings[1]	3,903,480	52%
		Non-mandatory Trainings[2]	3,545,292	48%
Training Spent (US$)	Gender	Male	4,794,078	61%
		Female	3,094,355	39%
	Total		7,888,433	
	Age	<30	2,140,014	27%
		30-50	5,140,558	65%
		>50	607,860	8%
	Management Level	Senior	465,131	54%
		Middle	279,384	32%
		Junior	121,344	14%
	Training Type	Mandatory Trainings	2,281,557	29%
		Non-mandatory Trainings	5,606,876	71%

[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

K. Human Capital Return on Investment

Year	2020	2021	2022	2023
Human Capital Return on Investment (ROI) [1]	1.42	1.63	1.75	**1.43**

L. Non-employee Workers[2]

Working Location	Number[3]
Taiwan	21,665
China	10,380
Rest of Asia	1,191
Americas	210
Total	**33,446**

M. Workers[4] Occupational Health and Safety

Category	Group	Employee	Non-employee
Category of Occupational Injuries	Number of Physical Injuries	116	5
	Number of Chemical Injuries	4	0
	Number of Ergonomic Injuries	4	0
	Number of Biological Injuries	0	0
	Number of Psychosocial Injuries	0	0
Total		**124**	**5**
Occupational Injuries	Rate of Occupational Injury[5]	0.72	0.18
	Number of Disability Cases	0	0
	Rate of Disability[6] Cases	0	0
	Number of Fatalities	0	0
	Rate of Fatalities[7]	0	0
Occupational Diseases	Occupational Diseases	28	0
	Number of Fatalities	0	0
	Rate of Fatalities[8]	0	0
Total Number of Working Hours (Hour)		**171,969,076**	**27,468,587[9]**

N. Employee Absence Statistics

Year	2020	2021	2022	2023
Absence Ratio (%)	2.2%	2.0%	2.1%	**2.2%**

[1] Human Capital ROI = (Total Revenue – (Total Operating Expenses - Total employee-related expenses)) / Total employee-related expenses

[2] 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 2022: increase in engineering contractors

[3] 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)

[4] The Workers include employee and non-employee workers (exclude visitors)

[5] Rate of occupational injury= (number of occupational injury *1,000,000)/ total hours of actually worked

[6] 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

[7] Rate of fatalities from occupational injuries= (number of fatalities from occupational injuries *1,000,000)/ total number of working hours

[8] Rate of fatalities from occupational diseases= (number of fatalities from occupational diseases *1,000,000)/ total number of working hours

[9] 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

	2020	2021	2022	2023
No. of project	10	10	19	13
Cost-saving of outsourced waste management (US$)	566,000	1,096,000	5,600,000	949,000

Industry-Academia Collaboration Programs

	2020	2021	2022	2023
No. of interns	638	224	410	502
No. of people participated in the semiconductor courses	169	862	209	453
No. of semiconductor assembly technology research projects	74	66	74	81

Afforestation Projects

	2020	2021	2022	2023
No. of planting area (hectares)	18.05	13.42	31.79	31.68

Volunteer

	2020	2021	2022	2023
No. of volunteers participating in the event	2,822	3,810	4,700	3,660
No. of volunteer hours	5,918	8,500	12,560	11,300

Environmental Education Program

	2020	2021	2022	2023
No. of courses	31	45	1,348	264
No. of participation	2,700	1,770	26,017	11,460
No. of seed teachers	238	42	173	163
No. of training materials/films	38	27	59	53

Supply Chain Data

A. Supplier Sustainability Assessment[1]

Category		Supplier		2023	2023 Target
Desk Assessment		Tier-1 Supplier		645	Supplier Sustainability Assessment: 600 suppliers
		Significant Supplier	Tier-1 Supplier	215	
			Non Tier-1 Supplier	86	
Physical Assessment	On-site and Remote Assessment	Tier-1 Supplier		79	
		Significant Supplier	Tier-1 Supplier	40	
			Non Tier-1 Supplier	6	
	RBA VAP and 3rd party Assessment	Tier-1 Supplier		122	
		Significant Supplier	Tier-1 Supplier	30	
			Non Tier-1 Supplier	21	

B. Supplier ESG Capacity Building Programs

Category	2023	2023 Target
Total Number of Suppliers in ESG Capacity Building Programs	102	60
Significant Suppliers in ESG Capacity Building Programs (%)	27%	

C. Critical Direct Material Suppliers Completing RBA SAQ (%)

Category	2020	2021	2022	2023
Critical Direct Material Suppliers Completing RBA SAQ (%)	64%	71%	78%	86%

D. Critical Suppliers Obtaining GHG Certification (%)

Category	2020	2021	2022	2023
Critical Suppliers Obtaining ISO 14064-1 Certification (%)	45%	51%	61%	63%

E. Non Tier-1 Suppliers Risk Assessment

Category	2020	2021	2022	2023
Non Tier-1 Suppliers Conduct Risk Assessment (by Tier-1 procurement amount) (%)	56%	61%	53%	46%

F. Conflict Minerals

Category	2020	2021	2022	2023
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%

G. Sustainable Raw Material

Category	2023	
Metal Materials	Amount (tonnes)	Share of Metal used that is Recycled (%)
Aluminium	180.48	68%
Cobalt	2.08	7%
Copper	525.44	55%
Iron/Steel	46.88	2%
Nickel	50.39	0.004%
Lithium	Not included	
Titanium	0.09	3%

[1] A total of 655 suppliers have implemented at least desk assessment or on-site assessment

Critical Supplier List

ASEH Critical Supplier List (ATM) in 2023

3M	ADVANCED DICING TECHNOLOGIES LTD.	ADVANCED RECYCLING CO., LTD.	ADVANTEK	AIR LIQUIDE FAR EASTERN LTD.
ASE (SHANGHAI) INC.	ASE Electronics INC.	ATO TECH	CHANG WAH ELECTROMATERIALS INC.	CHEMLEADER CORPORATE
CHI MEI TRADING CO., LTD	CRYSTAL-OPTECH	DAEDUCK ELECTRONICS CO., LTD	DAEWON SEMICONDUCTOR PACKAGING INDUSTRIAL CO., LTD.	DISCO CORPORATION
Dow International Holdings Company	DUPONT	E.PAK RESOURCES (S) PTE LTD	FUJIFILM ELECTRONIC MATERIALS CO., LTD.	FURUKAWA ELECTRIC CO., LTD.
FUSHENG ELECTRONICS CORPORATION	GREATECH SUBSTRATES CO.,LTD.	GTA MATERIAL CO., LTD.	HAESUNG DS CO., LTD.	Henkel AG & Co. KGaA
HERAEUS GROUP	HSIEHCHANG TECHNOLOGY CO., LTD.	HWA SHU ENTERPRISE CO., LTD.	INNOX ADVANCED MATERIALS CO., LTD	JENTECH PRECISION INDUSTRIAL CO.,LTD
KINSUS INTERCONNECT TECHNOLOGY CORP	KOREA CIRCUIT	KOSTAT, INC.	KULICKE AND SOFFA INDUSTRIES INC.	KYOCERA CORPORATE
LEADING INTERCONNECT SEMICONDUCTOR TECHNOLOGY	LEENO INDUSTRIAL INC.	LG INNOTEK CO., LTD.	LINTEC CORPORATION	LUCANDO CHEMICAL TECHNOLOGY CO., LTD.
MacDermid ALPHA ELECTRONICS SOLUTIONS	MERCK PERFORMANCE MATERIALS LTD	MITSUBISHI CORPORATION PLASTICS LTD.	MITSUI CHEMICALS	MITSUI HIGH-TEC, INC.
MK ELECTRON CO., LTD.	MTI ECO INNO.	MURATA ELECTRONICS	NAMICS CORPORATION	NAN YA PCB CORPORATION
NIPPON MICROMETAL CORPORATION	NITTO CORPORATION	NU-GEN INGERNATIONAL	OTIS Co., Ltd.	PECO TEK CO., LTD.
RESONAC HOLDINGS CORPORATION	RESOUND TECH INC.	ROHM AND HAAS	SAMSUNG ELECTRO-MECHANICS CO..LTD	SENJU METAL INDUSTRY CO., LTD
SEO KWANG MANUFACTURING CO.,LTD.	SHIN-ETSU CHEMICAL CO., LTD.	SHINKO ELECTRONICS (S) PTE LTD	SIMMTECH CO., LTD.	SMALL PRECISION TOOLS PTE LTD
SUMITOMO BAKELITE CO., LTD.	SUN SURFACE TECHNOLOGY CO., LTD.	SUNRISE PLASTICS INDUSTRY CO., LTD.	SYTEC MATERIALS TECHNOLOGY CO.,LTD.	TAI HONG CIRCUIT IND. CO.,LTD
TAIFLEX SCIENTIFIC CO., LTD.	TANAKA KIKINZOKU KOGYO K.K	TECREACH KOREA. CO., LTD.	TOK TAIWAN CO., LTD.	TOKUYAMA CORPORATION
TOPPAN PRINTING CO., LTD.	UBOT INCORPORATED LIMITED	UMATE ELETRONIC CO., LTD	UNIMICRON TECHNOLOGY CORP.	YANTAI ZHAOJIN KANFORT PRECIOUS METALS CO., LTD.

Third-Party Assurance Statement

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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, 2023.

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
Taipei, Taiwan
Republic of China

August 5, 2024

GRI Content Index

Statement of use	ASEH has reported in accordance with the GRI Standards for the period 2023/1/1-2023/12/31
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	07
2-3	Reporting period, frequency and contact point	The reporting period of this report is from January 1, 2023 to December 31, 2023, which is the same as the reporting period of the financial report. We publish the sustainability report every year in August. ABOUT OUR REPORTING	- 07
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	07 213
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	203
2-8	Workers who are not employees	Appendix: Social Data - L. Non-employee Workers	209
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 50
2-10	Nomination and selection of the highest governance body	3.1 Board of Directors	50
2-11	Chair of the highest governance body	3.1 Board of Directors	50
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 36-47 58-67
2-13	Delegation of responsibility for managing impacts	3.4 Risk Management	58-67
2-14	Role of the highest governance body in sustainability reporting	This report was approved and authorized by the Corporate Sustainability Committee.	-
2-15	Conflicts of interest	3.1 Board of Directors For more information, please refer to 2023 Annual Report " List of Major Shareholders", "Relationships among the Top Ten Shareholders", and 2023 Consolidated Financial Report " Marketable Securities Held", "Total Purchases from or Sales to Related Parties", and "Receivables from Related Parties".	50
2-16	Communication of critical concerns	3.1 Board of Directors For more information, please refer to 2023 Annual Report "Ch. 3.4 Corporate Governance".	50-51
2-17	Collective knowledge of the highest governance body	3.1 Board of Directors	51
2-18	Evaluation of the performance of the highest governance body	3.1 Board of Directors	51-52
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 149-150 of the 2023 Annual Report (English version).	51-52
2-20	Process to determine remuneration	2.4 Materiality Assessment and Stakeholder Communication 3.1 Board of Directors	36-47 51-52
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 the annual compensation of all other employees, please refer to https://ir.aseglobal.com/html/ir_committees.php?	206

GRI Standard	Disclosure	Related Section / Explanatory Notes	Page No.
Strategy, policies and practices			
2-22	Statement on sustainable development strategy	LETTER FROM THE CHAIRMAN 2.2 Sustainability Strategies	11-13 24-27
2-23	Policy commitments	3.3 Business Ethics 3.4 Risk Management 3.5 Human Rights Management	55 58-67 68
2-24	Embedding policy commitments	3.3 Business Ethics	55-56
2-25	Processes to remediate negative impacts	2.4 Materiality Assessment and Stakeholder Communication	36-47
2-26	Mechanisms for seeking advice and raising concerns	3.3 Business Ethics	57
2-27	Compliance with laws and regulations	3.6 Regulatory Compliance Appendix: Environmental Data - F. Environmental Violations	74 200
2-28	Membership associations	8.5 Public Advocacy	190-194
Stakeholder engagement			
2-29	Approach to stakeholder engagement	2.4 Materiality Assessment and Stakeholder Communication	36-47
2-30	Collective bargaining agreements	6.1 Talent Attraction and Retention	139
GRI 3: Material Topics 2021			
3-1	Process to determine material topics	2.4 Materiality Assessment and Stakeholder Communication	36-47
3-2	List of material topics	2.4 Materiality Assessment and Stakeholder Communication	36-47
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 24-27 36-47
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 2023 Consolidated Financial Report: https://ir.aseglobal.com/html/ir_financial.php	17 28-35 53-54
201-2	Financial implications and other risks and opportunities due to climate change	TCFD Report: https://www.aseglobal.com/en/pdf/2023-climate-and-environmental-report-en.pdf	-
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 146-152 of the ASEH 2023 Annual Report (English version) and page 65-70 of the ASEH 2023 Financial Report (English version)	133-134
201-4	Financial assistance received from government	ASEH is entitled to tax incentive. Please refer to page 85 of the ASEH 2023 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	24-27 36-47 128-131
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), 50% were local residents (with Republic of China citizenship).	50
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	24-27 28-35 36-47
203-1	Infrastructure investments and services supported	2.3 UN Sustainable Development Goals and Sustainable Value Assessment	28-35
GRI 204: Procurement Practices 2016			
3-3	Management of material topics	2.2 Sustainability Strategies 2.4 Materiality Assessment and Stakeholder Communication 7.3 Supply Chain Sustainability Management	24-27 36-47 160-165
204-1	Proportion of spending on local suppliers	7.2 Supply Chain Management Framework	160

GRI Standard	Disclosure	Related Section / Explanatory Notes	Page No.
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	24-27 36-47 55-57
205-1	Operations assessed for risks related to corruption	3.3 Business Ethics	56
205-2	Communication and training about anti-corruption policies and procedures	3.3 Business Ethics 6.1 Talent Attraction and Retention 7.2 Supply Chain Management Framework	56 128 158
205-3	Confirmed incidents of corruption and actions taken	3.3 Business Ethics In 2023, ASEH did not engage in any political contributions.	57
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	24-27 36-47 55-57
206-1	Legal actions for anticompetitive behavior, antitrust, and monopoly practices	In 2023, 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	24-27 36-47 99-109
302-1	Energy consumption within the organization	5.1 Climate leadership - Fossil Fuels (Non-renewable), Electricity and Renewable Energy Consumption	107-108
302-3	Energy intensity	5.1 Climate leadership - Electricity and Renewable Energy Consumption	108
302-4	Reduction of energy consumption	5.1 Climate leadership - Energy Resource Management	106
GRI 303: Water and Effluents 2018			
3-3	Management of material topics	2.2 Sustainability Strategies 2.4 Materiality Assessment and Stakeholder Communication 5.2 Water Resource	24-27 36-47 110-114
303-1	Interactions with water as a shared resource	5. GREEN MANUFACTURING AND LOW-CARBON TRANSFORMATION - 2023 Key Performance 5.2 Water Resource	97-98 110-114
303-2	Management of water discharge related impacts	5.2 Water resource - Wastewater management	114
303-3	Water withdrawal	5.2 Water resource- 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	113 196 198
303-4	Water discharge	5.2 Water resource - 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 (ML)	113-114 196 198 199
303-5	Water consumption	5.2 Water resource- 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	113 196 198
GRI 305: Emissions 2016			
3-3	Management of material topics	2.2 Sustainability Strategies 2.4 Materiality Assessment and Stakeholder Communication 5.1 Climate Leadership	24-27 36-47 99-109
305-1	Direct (Scope 1) GHG emissions	5.1 Climate leadership - Greenhouse Gas Emissions Management	103
305-2	Energy indirect (Scope 2) GHG emissions	5.1 Climate leadership - Greenhouse Gas Emissions Management	103
305-3	Other indirect (Scope 3) GHG emissions	5.1 Climate leadership - Greenhouse Gas Emissions Management	104
305-4	GHG emissions intensity	5.1 Climate leadership - Greenhouse Gas Emissions Management Appendix: Environmental Data-A. waste, water, energy, GHG & air emission	102 196

GRI Standard	Disclosure	Related Section / Explanatory Notes	Page No.
305-5	Reduction of GHG emissions	5.1 Climate leadership - Greenhouse Gas Emissions Management 5.1 Climate leadership - Energy Saving and Carbon Reduction Projects	103 104-105
305-6	Emissions of ozone-depleting substances (ODS)	5.4 Air Emissions Control	119
305-7	Nitrogen oxides, sulfur oxides, and other significant air emissions	5.4 Air Emissions Control Appendix: Environmental Data - A. Waste, Water, Energy, GHG & Air emission	119 197
GRI 306: Waste 2020			
3-3	Management of material topics	2.2 Sustainability Strategies 2.4 Materiality Assessment and Stakeholder Communication 5.3 Waste	24-27 36-47 115-116
306-1	Waste generation and significant waste-related impacts	5.3 Waste	115-116
306-2	Management of significant waste-related impacts	5.3 Waste	115-116
306-3	Waste generated	5.3 Waste Appendix: Environmental Data - A. Waste, Water, Energy, GHG & Air emission	115-116 196
306-4	Waste diverted from disposal	5.3 Waste Appendix: Environmental Data - A. Waste, Water, Energy, GHG & Air emission	115-116 196
306-5	Waste directed to disposal	5.3 Waste Appendix: Environmental Data - A. Waste, Water, Energy, GHG & Air emission	115-116 196
GRI 308: Supplier Environmental Assessment 2016			
3-3	Management of material topics	2.2 Sustainability Strategies 2.4 Materiality Assessment and Stakeholder Communication 7.3 Supply Chain Sustainability Management	24-27 36-47 160-165
308-1	New suppliers that were screened using environmental criteria	3.3 Business Ethics 7.3 Supply Chain Sustainability Management - Supplier Sustainability Management Approach	56 160-161
308-2	Negative environmental impacts in the supply chain and actions taken	7.3 Supply Chain Sustainability Management	160-165

GRI Standard	Disclosure	Related Section / Explanatory Notes	Page No.
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	24-27 36-47 128-130
401-1	New employee hires and employee turnover	6.1 Talent Attraction and Retention Appendix: Social Data – E. New Hire Employee, F. Turnover Rate	128-132 204
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	206
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	24-27 36-47 138-140
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	24-27 36-47 145-146
403-1	Occupational health and safety management system	6.3 Occupational Health and Safety	145-146
403-2	Hazard identification, risk assessment, and incident investigation	6.3 Occupational Health and Safety	145-149
403-3	Occupational health services	6.3 Occupational Health and Safety	149-152
403-4	Worker participation, consultation, and communication on occupational health and safety	6.3 Occupational Health and Safety	145-153

GRI Standard	Disclosure	Related Section / Explanatory Notes	Page No.
403-5	Worker training on occupational health and safety	6.3 Occupational Health and Safety	145-153
403-6	Promotion of worker health	6.3 Occupational Health and Safety	145-153
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	6.3 Occupational Health and Safety	145-153
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	145-153 209
403-9	Work-related injuries	6.3 Occupational Health and Safety Appendix: Social Data - M. Workers Occupational Health and Safety	145-153 209
403-10	Work-related ill health	6.3 Occupational Health and Safety Appendix: Social Data - M. Workers Occupational Health and Safety	145-153 209
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	24-27 36-47 141-144
404-1	Average hours of training per year per employee	6.2 Talent Cultivation and Development	141-144
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.	141-144
404-3	Percentage of employees receiving regular performance and career development reviews	6.1 Talent Attraction and Retention	137
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	24-27 36-47 128-129
405-1	Diversity of governance bodies and employees	3.1 Board of Directors 6.1 Talent Attraction and Retention - Diversity in Human Resources	51 128-129

GRI Standard	Disclosure	Related Section / Explanatory Notes	Page No.
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 7.3 Supply Chain Sustainability Management	24-27 36-47 68-73 160
408-1	Operations and suppliers at significant risk for incidents of child labor	3.5 Human Rights Management 7.3 Supply Chain Sustainability Management No significant risk of hire child labor and young workers exposed to hazardous work.	68-73 160
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 7.3 Sustainable Supply Chain Management	24-27 36-47 68-73 160
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	3.5 Human Rights Management 7.3 Supply Chain Sustainability Management Non-significant risk for incidents of forced or compulsory labor either.	68-73 160
GRI 414: Supplier Social Assessment 2016			
3-3	Management of material topics	2.2 Sustainability Strategies 2.4 Materiality Assessment and Stakeholder Communication 7.3 Supply Chain Sustainability Management	24-27 36-47 160-165
414-1	New suppliers that were screened using social criteria	3.3 Business Ethics 7.3 Supply Chain Sustainability Management - Supplier Sustainability Management Approach	56 160-161
414-2	Negative social impacts in the supply chain and actions taken	7.3 Supply Chain Sustainability Management	160-165
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	24-27 36-47 75-80
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.	73

GRI Standard	Disclosure	Related Section / Explanatory Notes	Page No.
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	24-27 36-47 82-90 91-94
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	24-27 36-47 95
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	24-27 36-47 75-80
Social Involvement			
3-3	Management of material topics	2.2 Sustainability Strategies 2.4 Materiality Assessment and Stakeholder Communication 8. Corporate Citizenship	24-27 36-47 170
Local Communities			
3-3	Management of material topics	2.2 Sustainability Strategies 2.4 Materiality Assessment and Stakeholder Communication 8.1 Social Involvement Overview	24-27 36-47 175-176

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	5.1 Climate leadership - Greenhouse gas emissions management	103
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 - Greenhouse gas emissions managemen	99-103
Energy Management in Manufacturing			
TC-SC-130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	5.1 Climate leadership - Electricity and the Use of Renewable Energy Appendix: Sustainability Indicators - SEMICONDUCTORS - No. 1	103 221
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	5.2 Water Resource-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	113 196 198
Waste Management			
TC-SC-150a.1	Amount of hazardous waste from manufacturing, percentage recycled	5.3 Waste Appendix: Environmental Data - A. Waste, Water, Energy, GHG & Air emission	115-116 196
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	145-149
TC-SC-320a.2	Total amount of monetary losses as a result of legal proceedings associated with employee health and safety violations	In 2023, ASEH was fined approximately US$9,798 for violating employee health and safety protocols (there were no fines exceeding US$10,000).	-

Topic / Code	Accounting Metric	Related Section / Explanatory Notes	Page No.
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.	68-73 203
Materials Sourcing			
TC-SC-440a.1	Description of the management of risks associated with the use of critical materials	7.3 Supply Chain Sustainability Management	160-165
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 2023, ASEH did not suffer any financial losses from violating anti-competitive regulations.	-

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	5.2 Water Resource 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	113 196 198
Waste Management			
TC-ES-150a.1	Amount of hazardous waste from manufacturing, percentage recycled	5.3 Waste Appendix: Environmental Data - A. Waste, Water, Energy, GHG & Air emission	115-116 196
Labor Practices			
TC-ES-310a.1	(1) Number of work stoppages and (2) total days idle	In 2023, 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	7.3 Supply Chain Sustainability Management	160-165
Activity Metrics			
TC-ES-000.C	Number of employees	Total number of USI employees is 17,031	-

Sustainability Indicators — SEMICONDUCTORS

No.	Indicators	Disclosure
1	Total energy consumption, percentage of purchased electricity and utilization rate of renewable energy with Greenhouse gas emissions of ASEH	• In 2023, total energy consumption was 15,771,140 GJ, with grid (imported) electricity accounting for 77.67 %, of the total consumption and renewable energies accounting for 19.27 % • In 2023, the greenhouse gas emissions of ASEH were as follows: Scope 1: 28.7900 tCO_2e, Scope 2: 37.1275 tCO_2e, Scope 3: 171.0377 tCO_2e
2	Total water withdrawal and total water consumption	In 2023, total water withdrawals amounted to 21,467,999 m^3, and total water consumption amounted to 6,081,747 m^3
3	The weight and recycling percentage of hazardous waste generated	In 2023, total hazardous waste was produced to 20,692 tons, and the recycling rate was 78%
4	The type, number and rate of occupational incidents	Category of Occupational Injuries in 2023: 1. Number of Physical Injuries: 116 peoples (94%) 2. Number of Chemical Injuries: 4 peoples (3%) 3. Number of Ergonomic Injuries: 4 peoples (3%) 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 2023, the weight of end-of-life products and e-waste were 480 tons, and the recycling rate was 0%
6	Risk management regarding the use of critical materials	Please refer to 7.3 Supply Chain Sustainability Management
7	Total amount of monetary losses as a result of legal proceedings associated with anticompetitive behavior regulations	In 2023, 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): 34,205,940 kpcs 2. Electronic Manufacturing Service (EMS): 870,921 kpcs

TCFD Index

Dimension	General industry index (2021 edition)	Comparing Section
Governance	a) The board's oversight of climate-related risks and opportunities.	**Sustainability Report** • Board of Directors 3.4 Risk Management **Climate and Environmental Report**[1] • Letter from the Chairman 1.1.1 Supervision at Management Level
	b) Management's role in assessing and managing climate-related risks and opportunities.	**Sustainability Report** 3.4 Risk Management **Climate and Environmental Report** 1.1.2 High-Level Assessment and Management
Strategy	a) The climate-related risks and opportunities the organization has identified over the short, medium, and long term.	**Climate and Environmental Report** 1.2.2 Integrated Risk Management Process 1.2.3 Material Climate- and Water-related Risks and Opportunities
	b) The impact of climate related risks and opportunities on the organization's businesses, strategy, and financial planning.	**Climate and Environmental Report** 1.2.3 Material Climate- and Water-related Risks and Opportunities
	c) The resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2℃ or lower scenario.	**Climate and Environmental Report** 1.2.4 Analysis of Climate Transition Risks and Financial Impacts 1.2.5 Physical Risk Analysis
Risk Management	a) The organization's processes for identifying and assessing climate-related risks.	**Climate and Environmental Report** 1.2.2 Integrated Risk Management Process
	b) The organization's processes for managing climate-related risks.	
	c) How processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	**Climate and Environmental Report** 1.2.1 Risk Management Organization Overview
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.	**Climate and Environmental Report** 1.2.2 Integrated Risk Management Process
	b) Scope1, Scope2 , and if appropriate, scope3 greenhouse gas (GHG) emissions and the related risks.	**Sustainability Report** 5.1 Climate Leadership
	c) The targets used by the organization to manage climate-related risks and opportunities and performance against targets.	**Climate and Environmental Report** 2.1 Net-zero Transition 2.2 Targets and Net-zero Emission Pathways 2 Net zero emissions 3 Decarbonization Practices

[1] Climate and Environmental Report: https://www.aseglobal.com/download/

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