



Letter from Chairman

Navigating the Crossroads of an Intelligent and Low-Carbon Economy

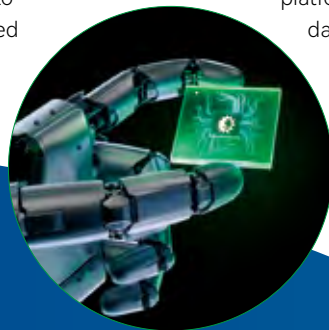
The world is entering a transformative era where artificial intelligence (AI) is reshaping the industry and redefining how we live and operate. Driven by the rapid advancement of AI, the global semiconductor market is forecast to surpass the USD 1 trillion mark within the next decade, solidifying AI as a cornerstone of the intelligent economy. At the same time, climate change can no longer be perceived as a distant risk with the increasing frequency of extreme climate events. In fact, it is a persistent challenge that businesses must confront. Throughout 2024, the global average temperature exceeded the pre-industrial level by more than 1.5° C for the first time, deviating from the Paris Agreement's goal of limiting global warming to below 1.5° C. This phenomenon highlights the urgency for global action and the critical need for enterprises to accelerate their transition towards low-carbon business models.

Regardless, we remain optimistic that the coming decade will be a golden era for the semiconductor industry. The company has established clear strategic goals, committing fully to collaborating with key global partners to drive innovation, overcome technological barriers, and seize strategic opportunities amid an increasingly complex geopolitical landscape. Our ambition is to reshape the semiconductor value chain into a resilient, competitive, and sustainable model anchored by three core pillars: low-carbon manufacturing, digital transformation and localization. At ASEH, we firmly believe that progress is built not only on technological breakthroughs but also on the unwavering commitment to environmental stewardship and social inclusion. We will leverage our pivotal role within the global semiconductor ecosystem to harness the power of technology and contribute meaningfully to a smarter and more sustainable future.

Harnessing AI for Sustainable Manufacturing

ASEH is committed to building a future-ready manufacturing ecosystem powered by AI and aligned with global sustainability goals. Since joining the Science-Based Targets initiative (SBTi), the company has formulated ambitious carbon reduction pathways for 2030 and 2050. We continue to uphold our corporate social responsibility to both stakeholders and the planet through a holistic approach anchored in five key areas: carbon credit investments, renewable energy adoption, low-carbon transportation, low-carbon product development, and supply chain engagement. As of 2024, 19% of our manufacturing facilities' energy consumption is sourced from renewables, with 88% of facilities utilizing renewable energy and 10 sites achieving RE100 certification. To accelerate net-zero progress across the company, internal carbon pricing was implemented at 100% of all global sites, with adequate budget allocated for ongoing decarbonization initiatives. In Taiwan, 14 of our facilities have achieved Green Factory Certification. In addition, environmental meetings are conducted quarterly to explore innovative and effective carbon reduction strategies. By addressing both our operational processes and employee behaviors, we are transforming carbon reduction into a company-wide movement.

At the same time, we are accelerating the adoption of AI technologies across our manufacturing operations from production scheduling to automated dispatching and yield optimization. AI integration at ASE Kaohsiung has led to a 67% increase in production efficiency and a 39% reduction in order lead time, demonstrating significant agility and resource optimization. Additionally, the company's smart energy management systems use AI algorithms to automatically optimize energy consumption based on real-time data, maximizing operational efficiency and minimizing waste. We have also



integrated wastewater quality monitoring and organic fluorescence detection with AI at the final stage of the production process to optimize water recovery processes and improve reuse rates.

Building a High-impact Decarbonized Supply Chain

A robust supply chain is integral to maintaining ASEH's growth and leadership influence. To that end, we work closely with our supply partners to drive low-carbon management through 5 key pillars: sustainable supplier selection, comprehensive carbon data transparency, low-carbon transformation of materials and equipment, upstream low-carbon transportation, and the development of a low-carbon supply chain. The ASE Environmental Sustainability Foundation also hosts the Low-Carbon Energy-Saving Sustainability Awards, strengthening shared commitment with supplier partners toward achieving net-zero emissions by 2050. For the first time, we have introduced a 10% sustainability performance metric into our supplier evaluation system, alongside traditional criteria such as quality and delivery. In addition, we launched a Low-Carbon Equipment Alliance through a partnership with 19 key equipment suppliers to co-develop energy-efficient machinery aimed at achieving a 20% energy reduction by 2030. The decarbonization journey involves multi-layers of complexity, and driving meaningful progress goes beyond the roles played by the corporate sustainability or procurement teams. The company is strengthening cross-functional collaboration, engaging suppliers from multiple perspectives and extending our climate actions across the broader ecosystem. We have also built a robust library of resources including sustainability courses and an online learning platform to support our partners in sustainability development. To date, nearly 2,000 partners have participated, contributing to a shared platform for sustainability knowledge and action.

Jason C.S. Chang
Chairman



Empowering our Youth and Protecting our Ecosystems

At ASEH, we are deeply focused on addressing environmental challenges and promoting social welfare. We combine the resources of our business operations together with the cultural, charity and environmental sustainability foundations and social enterprise unit to develop purpose-driven programs and initiatives. The Sustainability Innovation Competition was launched in 2022 and is in its third year running. The program supports promising startups and nurturing emerging sustainable technologies. The 2024 competition focused on Green Energy & Low Carbon and Circular Economy, attracting over 100 participating teams. Beyond providing financial support, we help to facilitate winning teams to commercialize their innovative solutions through partnerships within our company or local government agencies, accelerating industry transformation and amplifying sustainable impact.

We believe it is vital to engage young people early, empowering them to become active participants and innovators in sustainability. The 2024 ASEH Youth Sustainability Innovation Camp was organized to equip students with practical knowledge on sustainability concepts and problem-solving skills, helping them build resilience in a dynamic learning environment.

Our actions continue in the fostering of collaborative water stewardship and ecological conservation, combining afforestation, carbon sinks, and marine protection to enhance positive impacts on natural capital and biodiversity. As of 2024, we have achieved

a cumulative afforestation area of 261.05 hectares, planting over 340,000 trees to strengthen soil and water conservation and restore habitats. We have also partnered with the International Climate Development Institute on a Low-accumulation Forest Carbon Enhancement Project to explore localized nature-based carbon sink mechanisms that support carbon neutrality planning. The official acknowledgement of the methodology by the Ministry of Environment in 2024 is a positive development for broader forest management initiatives across Taiwan. Beginning in 2025, we plan to launch forest management initiatives aimed at reducing several thousand tons of CO₂e over the next 30 years. Ultimately, our objective is to accelerate climate mitigation and nurture local ecosystems and biodiversity.

Catapulting towards a Responsible and Resilient Future

As we approach 2025, our journey of innovation and value creation continues unabated, embracing AI technologies and sustainability development in everything we do. Our teams will take concrete actions as well as expand impactful programs that reinforce ESG values both within the organization and across society. We aim to cultivate a responsible corporate culture that inspires positive change and helps shape a more resilient and sustainable future for all.



Richard H.P. Chang
Vice Chairman and President

