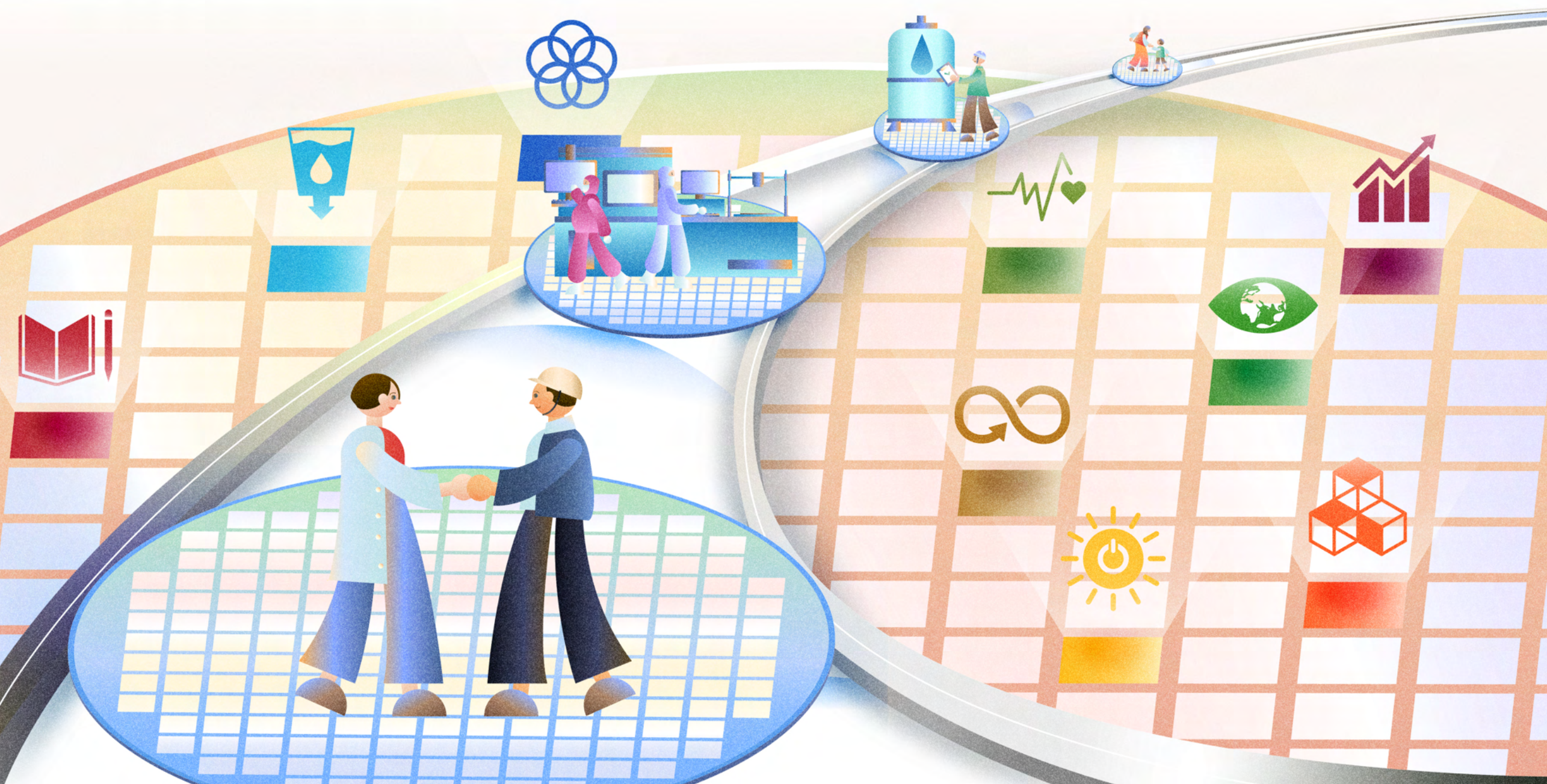




Letter from the ESG Committee Chairperson

As the world approaches the 2030 deadline for the UN Sustainable Development Goals (SDGs), 2025 marks a pivotal moment of transition. At the intersection of climate action, digital transformation, and social resilience, geopolitical shifts and technological changes continue to introduce new uncertainties to global sustainability efforts. Companies must adopt a forward-looking mindset and accelerate the conversion of sustainability commitments into tangible actions.

As a key player in the global semiconductor industry, TSMC follows the UN Global Compact's "Forward Faster Initiatives," focusing on two core areas—climate action and water resilience. By leveraging science-based decarbonization pathways and water-positive targets, TSMC is accelerating its sustainability transition. The Company also deepens the application of the UNDP Accelerator Labs' Collective Intelligence framework, working with stakeholders across sectors to address five critical gaps—data, action, diversity, awareness, and decision-making. Through shared understanding and innovative sustainability solutions, TSMC continues to create long-term value aligned with the SDGs.

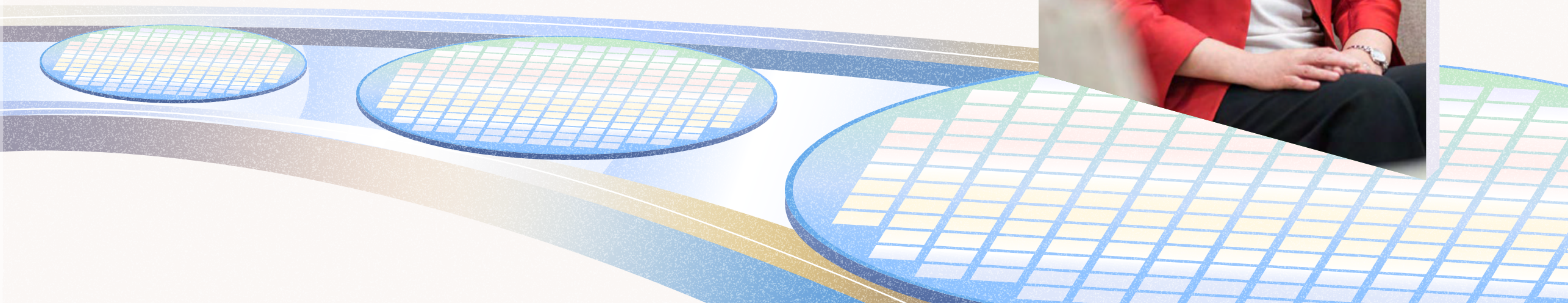
As sustainability thinking becomes increasingly embedded in decision-making processes and core operations, this year will mark the final publication of TSMC's UN SDGs Action Report. This milestone signifies a shift from project-based efforts to day-to-day management rooted in SDG principles. Going forward, related updates and disclosures will be integrated into TSMC's annual Sustainability Report, ensuring comprehensive communication of the Company's sustainability efforts.

Sustainability is a marathon built on trust and perseverance. TSMC extends its gratitude to every employee for their unwavering dedication and to all the partners who walk alongside us on this journey. As business and societal needs continue to evolve, sustainability management will also adapt and innovate. However, TSMC's commitment to shared global prosperity remains steadfast. Looking ahead, we will stay true to our purpose of "driving positive change" and strive to create a more prosperous and inclusive future for the next generation.



Lora Ho

TSMC Senior Vice President and ESG Committee Chairperson



UN SDGs and Disclosure Trends

The UN Sustainable Development Goals (SDGs), anchored in the core principle of "Leave No One Behind," have reshaped global expectations for corporate sustainability, placing greater emphasis on the social and environmental impacts (i.e., externalities) that were often overlooked in past economic development. Over the past decade, global sustainability reporting standards, such as the Global Reporting Initiative (GRI) Standards and the EU Corporate Sustainability Reporting Directive (CSRD) have required companies to incorporate externalities into materiality assessments. The Corporate Sustainability Due Diligence Directive (CSDDD) has taken this further by mandating companies to strengthen their responsibilities for human rights and environmental protection across the value chain—a mission central to the SDGs. In line with global sustainability trends, the SDGs have evolved from a voluntary initiative into a key framework for corporate governance, risk management, and maintaining long-term competitiveness.

Today, artificial intelligence (AI) is driving innovation across industries, such as communications, data analytics, environmental sustainability, healthcare, smart living, intelligent transportation, and entertainment, continuously improving how people live and work. As the world's leading dedicated semiconductor foundry, TSMC follows its ESG Policy and remains committed to its mission of "Act with Integrity, Strengthen Environmental Protection, and Care for the Underprivileged." Through five key focus areas—Green Manufacturing, Responsible Supply Chain, Healthy and Inclusive Workplace, Talent Development, and Care for the Underprivileged—TSMC actively promotes corporate sustainability to create lasting value for society.

To align with global sustainability trends, TSMC adopts the GRI and the UN Global Compact's Integrating the Sustainable Development Goals into Corporate Reporting: A Practical Guide to identify nine SDGs most relevant to its business. These include: SDG 3 (Good Health and Well-being), SDG 4 (Quality Education), SDG 6 (Clean Water and Sanitation), SDG 7 (Affordable and Clean Energy), SDG 8 (Decent Work and Economic Growth), SDG 9 (Industry, Innovation, and Infrastructure), SDG 12 (Responsible Consumption and Production), SDG 13 (Climate Action), and SDG 17 (Partnerships for the Goals). Through concrete actions and targets, TSMC works to drive momentum toward these goals.

The UN's 2025 Sustainable Development Report (SDR) notes that while some global progress has been made, 66% of SDG targets face delays or stagnation. In response, in 2025, TSMC referenced the UN's Collective Intelligence Framework and worked with stakeholders—including employees, shareholders/investors, customers, suppliers/contractors, governments/industry associations, and communities—to narrow the five key gaps in data, doing, diversity, distance, and decision-making. By doing so, the Company aims to advance the SDGs and accelerate balanced progress toward economic growth, environmental protection, and social well-being.

Disclosure Framework and Principles

This report adopts the SDG disclosure framework developed by the organization "Support the Goals," systematically presenting TSMC's concrete achievements in promoting the SDG across five dimensions—Planning, Commitment, Actions, Progress, and Collaborations—in the "Sustainability Actions" chapter. The "Initiatives and Impact" chapter applies the Impact Measurement and Valuation (IMV) methodology to monetize the environmental, social, and economic impacts and benefits of the Company's operations. Also, the Business for Societal Impact (B4SI) framework is utilized to examine the sustainability impact of selected annual SDG projects in three dimensions: Behavioral or Attitudinal Change, Quality of Life or Well-being, and Skills or Work Performance.



TSMC's Commitment and Progress

TSMC coordinates cross-functional collaboration through its ESG Committee, integrating sustainability into operational decision-making and setting long-term goals for 2030. The Committee convenes organizational representatives quarterly to review material operational and sustainability issues and drive actions toward these goals. To enhance execution effectiveness, TSMC adopts a three-tier performance review mechanism using red, yellow, and green indicators to regularly track progress and outcomes. Based on review results, the Company adjusts goal items as necessary by adding or removing them.

In 2025, TSMC committed to 55 long-term goals aligned with the SDGs, introducing 7 new goals including enhancing construction site safety, promoting participation rates in health programs, reducing sick leave absenteeism rates, and reducing Scope 1, 2, and 3 emissions. Review results showed that, compared to 2024, 88% (42 goals) achieved green status, reflecting continued progress and the achievement of annual targets. 12% (6 goals) showed a negative trend, though the goals "Increasing Taiwan local sourcing," "Reducing the incident rate," and "Increasing the reduction rate of volatile organic gases" still exceeded their annual targets and were rated amber. The "Percentage of women in management" goal fell short of its annual target but outperformed the prior year, receiving an amber rating. In addition, two goals—"R&D expenditure as a percentage of revenue" and "NMP substitution rate in etching processes"—received a red rating, as they missed both annual targets and prior-year performance levels. For goals that fell short of expectations, the ESG Committee has mandated that responsible units conduct a current-state analysis to identify specific causes of action gaps and propose improvement plans.

TSMC regards sustainable development as a core competitive advantage. The Company not only strives to improve its operational performance but also collaborates with value chain partners through diverse communication platforms to explore innovative solutions. This approach ensures alignment between TSMC's and its partners' sustainability pathways with international SDG guidance, driving meaningful positive change. For more information on TSMC's sustainability actions and achievements, please refer to the [2025 TSMC Sustainability Report](#) and [ESG website](#).



Carry Out the UN Sustainable Development Goals



Good Health and Well-being

- Improve Medical Care to Seniors Living Alone**
 - Serve seniors living alone 80,000 times each year via the Network of Compassion
- Implement Comprehensive Health Management**
 - Employee self-enrollment in health programs: > 60%
 - Sick leave absenteeism rate: ≤ 2%



Quality Education

- Empower Youth and Talent through Education**
 - Invest NT\$95 million or more into quality educational resources
 - Cultivate over 35,000 undergraduate and graduate students globally through campus programs that deepen industry-academia collaboration between 2021 and 2030
 - Organize STEM workshops for female high school students, engaging over 3,000 participants
- Care for Children in Remote Areas**
 - 20,000+ hours of educational volunteer every year
 - Benefit 50,000+ children in rural areas



Clean Water and Sanitation

- Improve Water Efficiency**
 - Provide consultation on water reduction for suppliers and reduce water consumption by a cumulative total of 150 million metric tons (Base year: 2020)
- Raise Effluent Standards**
 - Reduce water pollution composite indicator by > 60%
- Water Resilience**
 - Global Water Positive achievement rate of > 65%

SDG 7



Affordable and Clean Energy

Manufacture with Greater Energy Efficiency

- Double energy efficiency after five years of volume production for each process technology
- Achieve a cumulative energy-saving rate of 7.5% from new energy-saving measures adopted between 2026 and 2030

Work with Suppliers Toward Energy Conservation

- Provide consultation on power reduction for suppliers and reduce energy consumption by a total of 1,500 GWh (Base year: 2018)

Use Renewable Energy

- 60% of the electricity consumption at all company operational sites comes from renewable energy

SDG 9



Industry, Innovation and Infrastructure

Encourage Innovation

- TSMC continues to maintain its technology leadership by Investing $\geq 6\%$ of annual revenue in R&D expenses
- Over 100,000 Global Patent Grants
- Over 1,000,000 Trade Secret Registrations
- Provide > 1,200 wafer manufacturing and process technologies and > 270 advanced packaging technologies in line with the TSMC technology roadmap

SDG 8



Decent Work and Economic Growth

Offer Competitive Compensation

- Maintain position top 25% among industry peers in total compensation

Promote Workplace Safety

- Disabling Injury Frequency Rate (FR): < 0.3
- Disabling Severity Rate (SR): < 3
- Incident Rate per 1,000 Employees: < 0.2
- All waste contractors shall acquire ISO 14001 or other international EHS Management certification
- Assist all high-risk contractors to obtain ISO 45001 certification for occupational safety and health management system
- Construction site incident and accident rate per 1,000 workers < 3.2
- Construction site occupational accidents frequency < 0.77
- Construction site fatal occupational accidents: 0

Strengthen Industry Sustainability

- Audit a cumulative total of 30 suppliers (≥ 3 suppliers per year) for due diligence on responsible mineral sourcing
- Women in management: $\geq 18\%$
- Supplier due diligence on responsible mineral sourcing: 100% of the minerals used are sourced responsibly
- Achieve an average human rights rating of Grade B (score 85) on the Self-Assessment Questionnaire (SAQ) for tier 1 suppliers

Support Local Suppliers

- Ensure a cumulative total of 145 local raw materials suppliers receive consultation on process advancement and quality improvement (Base year: 2016)
- 100% of major raw material suppliers obtain ISO 9001 certification
- Increase Taiwan local sourcing 68% for indirect raw materials
- Increase overseas subsidiaries local sourcing 52.5% for indirect raw materials
- Increase Taiwan local sourcing 60% for spare parts
- Continue to diversify production plant sites and assess new suppliers; develop 185 multi-source supply solutions (Base year: 2018)



SDG 12



Responsible Consumption and Production

Reduce Industrial Waste Output

- In-house recycling rate $\geq 70\%$
- 99.5% Waste recycling rate

Carry Out Circular Economy

- Provide consultation on waste reduction for suppliers and achieve an average waste recycling rate of 86%

Implement Chemicals Management

- Require tier 1 suppliers to establish phase-out plans for regulated materials, with a 100% completion rate
- Develop the capability to analyze 100% of CMR Substances in materials with potential risks, and assist suppliers of such materials in developing the same capability
- Replace 100% of NMP (N-Methyl-2-Pyrrolidone) used in etching processes (Base year: 2016)
- Eliminate the use of PFASs (perfluoroalkyl and polyfluoroalkyl substances) containing more than 4 perfluorinated carbons in all processes
- 0 cases of occupational disorders caused by exposure to chemicals

SDG 13



Climate Action

Improve Environmental Protection

- Reduce air pollution composite indicator by $> 90\%$
- Reduction rate of volatile organic gases $> 99\%$

Implement Adaptation Strategies to Climate Risks

- Reduce Scope 1 and Scope 2 emissions by 31% (Base year: 2025), and return total emissions to 2020 levels
- Ensure 100% of high energy consumption suppliers receive ISO 14064 GHG Emission verification (Base year: 2021)
- Reduce Scope 3 emissions by 15% (Base year: 2025)
- 0 days of production interruption due to climate disasters
- Reduce supplier carbon emissions by 15% (Base year: 2025)

Strengthen Supply Chain Climate Resilience

- Suppliers invited to participate in CDP in the year should achieve an average score of B and a response rate of 100%

Organize Environmental/Energy-saving Volunteers

- Offer environmental protection-related volunteer services at least 1,200 times each year

SDG 3

Good Health and Well-being

1

Plans

Ensure healthy lives and promote well-being for all ages to support SDG 3

2

Actions

01

Improve medical care to seniors living alone

02

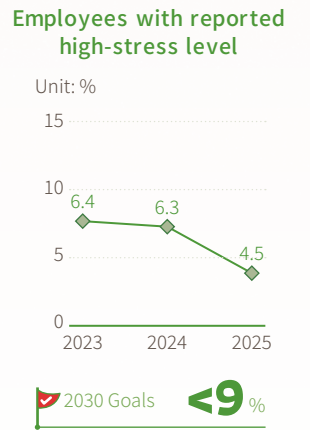
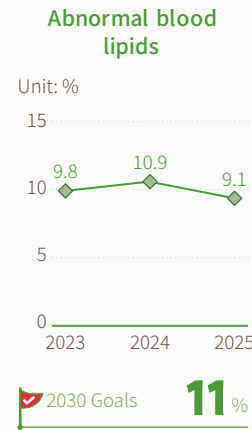
Implement comprehensive health management

3

Commitments Progress

4

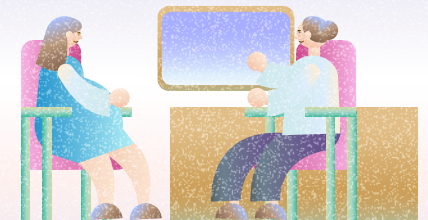
Collaborations

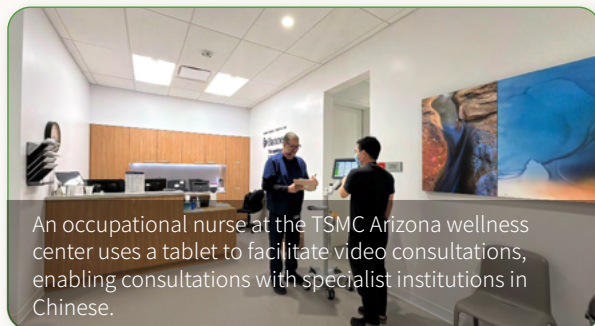


3.4
By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being

3.d
Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks

Implement occupational disease prevention and enhance physical and mental balance to help improve employee health and well-being





MISSION

01 | TSMC Strengthens Global Healthcare Support for Assignees

TSMC enhances employee physical and mental care through comprehensive health management^[1]. To address the growing needs arising from TSMC's global expansion in recent years, the Company has established a dedicated "Overseas Assignee Health Management Team" to care for its employees stationed abroad. With the number of overseas assignees, business travelers, and trainees now exceeding 2,000, this initiative aims to meet their diverse health needs by focusing on three key areas: medical resource assistance, health check-up tracking and management, and occupational injury and illness prevention. TSMC has created a global health network by integrating resources from domestic and overseas wellness centers, corporate group insurance, partner hospitals, and international medical assistance providers. This network offers round-the-clock support for assignees and their families, including medical consultations, hospital visits, and follow-up services, ensuring robust health management for a growing number of assignees and their families worldwide.

[READ MORE](#)

MISSION

02 | Accessibility Experience Days: Showcasing the Value of Inclusion

TSMC is dedicated to fostering an inclusive workplace and encourages employee awareness and action through its Employee Resource Groups (ERGs). In 2025, in its first-ever response to "Disability Pride Month^[1]", the "Accessibility@tsmc^[2]" ERG collaborated with accessibility non-profit organizations to launch a series of activities from July to September. These initiatives included "Accessibility Experience Days" held across TSMC's Hsinchu, Taichung, and Tainan sites. The aim was to enhance employees' understanding of persons with disabilities and rare disorders. Two new sub-groups for "Accessibility@tsmc" were also established: "Mental Health" and "Parents of Children with Early Treatment Needs." These sub-groups hosted specialized lectures, encouraging employees to care for their mental well-being and support families with special needs. A total of 1,194 participants joined Disability Pride Month events, and 257 employees signed up as new members of Accessibility@tsmc. Diverse talent is an important asset for TSMC. By supporting employees with disabilities and promoting advocacy, TSMC continues to deepen its inclusive workplace culture, aiming to ensure that every employee feels respected, valued, and has a sense of belonging, fully realizing their potential and embodying the value of inclusion.

[READ MORE](#)



MISSION

03 | Establishes Pride@tsmc to Deepen Its Commitment to Inclusion

Acting on the principles of its "Global Inclusive Workplace Statement", TSMC is dedicated to creating an inclusive workplace and fostering the growth of many Employee Resource Groups (ERGs)^[1]. To further expand its support and development of diverse talents, TSMC launched its first initiatives focused on gender and sexual diversity in 2025. These include three theme lectures: "From Knowing to Understanding: The Diverse Faces of Gender and Sexuality," "From Understanding to Empathy: Supporting Gender and Sexual Diversity and Building Psychological Safety," and "From Empathy to Allyship: Becoming an Ally for Gender and Sexual Diversity." These lectures were designed to enhance employees' awareness of LGBTQ+^[2] issues and attracted a total of 2,484 participants. During the third lecture, TSMC officially announced the establishment of its fifth ERG, Pride@tsmc, as a step to support gender diversity. This initiative further promotes a culture of mutual respect and trust while fostering a workplace environment where employees feel a strong sense of belonging.

[READ MORE](#)



SDG
4

Quality Education

1

Plans

Ensure inclusive and equitable quality education and promote lifelong learning opportunities to support SDG 4

2

Actions

01

Empower youth and talent through education

02

Care for children in remote areas

3

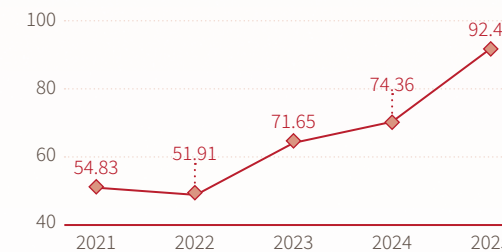
Commitments
Progress

4

Collaborations

Annual investment in quality education resources

Unit: NT\$/million

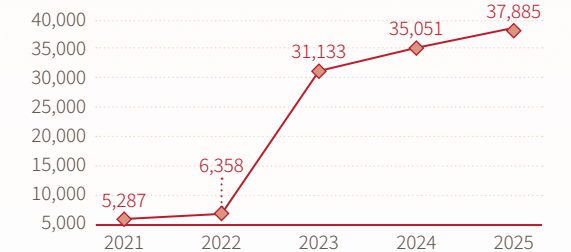


2030 Goals

95 Million

Number of children beneficiaries in remote areas

Unit: People



2030 Goals

50,000 People

4.4

By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship

4.7

By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development

TSMC work with employees, suppliers, the industry, social welfare groups, schools, and the government to invest in collaboration and initiatives spotlighting quality education





The C-LAB FVL Dome is the only mobile outdoors immersive theater in Taiwan.

MISSION

01 | A.I. Leads New Trends in Humanism at the 22nd TSMC Hsin-chu Arts Festival

The TSMC Education and Culture Foundation has long dedicated itself to arts and culture promotion. The Foundation holds the TSMC Hsin-chu Arts Festival each year to strengthen the cultural literacy of students and the general public, and to promote cultural heritage. As it enters its 22nd year, the Arts Festival set this year's theme as "A. I. - Arts & I" in response to the growing global trend of Artificial Intelligence. In 2025, nearly 70 performances and exhibitions from a wide range of arts were held between April 18 and June 29, attracting more than 30,000 participants. The Foundation partnered with the Taiwan Contemporary Culture Lab (C-Lab) and National Tsing Hua University Arts Centre and moved Taiwan's only mobile outdoor immersive theatre, the "C-Lab FVL Dome" to the campus of National Tsing Hua University for the first time for this Art Festival. The FVL Dome deploys innovative tools such as AI, image generation, generative arts and high performance computing platforms and combines them with creative images and live performance to lead the audience in exploration of the unlimited possibilities of next-generation technological art.

READ MORE

MISSION

02 | TSMC Charity Foundation Helps Rural Students Explore a New World with First "Science Train" to South Taiwan

The TSMC Charity Foundation has long supported educational empowerment, providing a wide variety of learning resources to stimulate students' potential. In 2025, The Foundation and TSMC's Intelligent Manufacturing Center joined the National Science and Technology Council's "South of the Border - Yingxi Science Train" program, helping to connect the educational resources of Pingtung County and Taitung County Government and bring the Science Train to the Southern Loop of Taiwan's rail network for the first time. With schools in the Pingtung and Taitung regions now included on the route, students in rural areas gained the opportunity to board the train and experience specially designed science games. At the same time, the Charity Foundation also helped to promote special "science markets" set up at Fangliao Station in Pingtung County, as well as Jinlun Station and Taitung Station in Taitung County to deepen children's innovative thinking and scientific literacy through entertainment. Nearly 1,000 students from nine primary schools in Pingtung with Taitung participated in this event, injecting new vitality into popular science education in Taiwan's rural areas.

READ MORE



The TSMC Charity Foundation facilitates the first run of the science train in the southern loop section to deepen science education in rural areas.



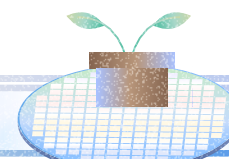
TSMC's inaugural "Biodiversity International Forum and Award Ceremony" brings innovative energy into the field of ecology.

MISSION

03 | International Biodiversity Forum and Award Ceremony: Empowering the Future of Conservation Talents

TSMC values environmental sustainability and established its ["Eco Plus! Ecological Harmony Program"](#) as a key platform for promoting nature and protecting biodiversity. The Company views talent development as a vital bridge connecting conservation efforts with a sustainable future. TSMC partnered with the Taiwan Biodiversity Research Institute of the Ministry of Agriculture and the Taiwan Society of Plant Systematics in 2025 to launch the ["TSMC Biodiversity Scholarship and Proposal Grant."](#) This initiative aims to encourage outstanding students and scholars to engage in biodiversity conservation in Taiwan. The inaugural event attracted 55 domestic and international submissions from industry, government, academic, and research institutions. A panel of 130 judges selected 22 entries, which were honored at the first "TSMC Biodiversity International Forum and Award Ceremony" held on September 27th. The ceremony not only recognized the awardees but also brought together local and international experts and scholars in ecology for cross-disciplinary exchanges, adding new momentum into the vision of mainstreaming biodiversity.

READ MORE





SDG
6

Clean Water and Sanitation

1

Plans

Ensure the availability and sustainable management of water and sanitation for all to support SDG 6

2

Actions

01

Improve water efficiency

02

Raise effluent standards

03

Water resilience

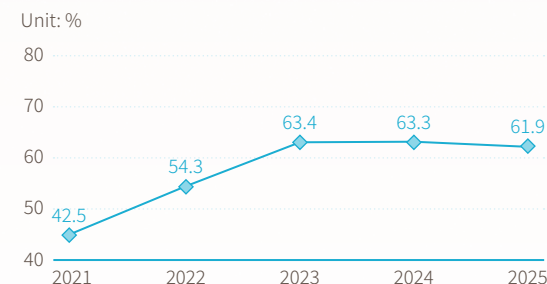
3

Commitments
Progress

4

Collaborations

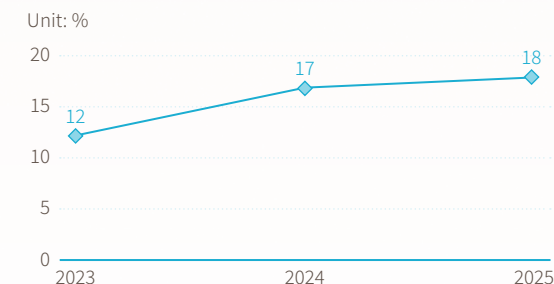
Water pollution composite indicator reduction rate



2030 Goals

>60%

Replacement of water resources with reclaimed water



2030 Goals

>65%

6.3

By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally

6.4

By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity

6.5

By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate

Participate in global initiatives and collaborate with the government, employees, and suppliers to improve water quality and generate a net positive change in water resources





After filtering the samples, TSMC enhances PFAS detection efficiency by directly introducing them into the instrument for analysis.

MISSION

01 Optimizes PFAS Detection Methodology, Boosting Efficiency by 86%

To improve product quality, TSMC prioritizes sustainable chemical management^[1] as a key strategy, aiming to eliminate hazardous chemicals such as Per- and Polyfluoroalkyl Substances (PFAS) from all processes to meet its sustainability goals. The Company has established four major management strategies: source control, industry collaboration, environment monitoring, and pollution control, and it discloses its annual progress in sustainability reports. In response to increasing international concerns about PFAS, TSMC has continuously optimized its PFAS detection capabilities. By implementing filtration-direct analysis, the company has reduced the detection process time from 105 minutes to 15 minutes, improving efficiency by 86% while minimizing contamination risks. This method has been verified for reliability by the American third-party testing organization Eurofins, with detection data recognized by the U.S. Environmental Protection Agency. As of 2025^[2], this method has been implemented in all domestic and overseas 12-inch, 8-inch, and backend fabs, further bolstering environmental, safety, and health management.

[READ MORE](#)

MISSION

02 TSMC (Nanjing) "Facility Environmental Laboratory" Obtains International Standard Certification

TSMC is committed to becoming a global benchmark in environmental sustainability. Following the establishment of an Environmental Monitoring Center at its Taiwan sites to control pollutant emissions^[1] and enhance the efficiency of pollution control equipment, the Company established its first overseas "Facility Environmental Laboratory" at TSMC (Nanjing), aimed at strengthening its autonomous monitoring capabilities. Guided by the three strategic pillars of "quality control, operational execution, and replication and promotion", TSMC (Nanjing) launched an enhancement initiative for its environmental monitoring capabilities. It has since become the first TSMC laboratory to obtain certification under the ISO/IEC 17025 international standard^[2], and successfully passed the annual verification by the China National Accreditation Service for Conformity Assessment^[3] in 2025. The laboratory currently possesses testing capabilities for 32 emission indicators, exceeding the 24 indicators^[4] stipulated by local environmental regulations. Additionally, it has established a parameter database^[5] covering 129 exhaust ducts, and completed rectification work on five exhaust stacks that had exceeded internal emission standards. Overall assessments indicate that air pollutant emissions have been reduced by 61%, while the composite reduction rate of water pollution indicators has improved by 19% compared to levels prior to the laboratory's establishment^[6]—demonstrating TSMC's firm commitment to the effective implementation of its [Environmental Policy](#).

[READ MORE](#)



TSMC (Nanjing) Facility Environmental Laboratory continues to improve detection capabilities and quality.



TSMC developed the "Ammonia Nitrogen Wastewater Diversion Audit and Treatment System" to reduce wastewater conductivity and chemical consumption.

MISSION

03 Breakthrough in Water Management Saves NT\$102 Million Annually

In response to the United Nations Sustainable Development Goal (SDG) No. 6—Clean Water and Sanitation^[1], TSMC is committed to implementing sustainable water resource management. To address the conductivity^[2] of discharged wastewater and reduce the use of chemical reagents, TSMC developed the "Ammonia Nitrogen Wastewater Diversion and Processing Inspection System" in 2024. This system operates through a three-stage process—"Precise Diversion, Inspection Management, and Resource Regeneration." Low-concentration ammonia wastewater is channeled to biological treatment systems, where ammonia nitrogen is repurposed as a nitrogen source^[3] for microorganisms. High-concentration Ammonia wastewater undergoes treatment via a degassing membrane^[4] process, converting ammonia nitrogen into ammonium sulfate, thereby realizing resource regeneration. As of 2025, the system was successfully implemented at Fab 20 Phase 1, Fab 18 Phase 7, and Fab 18 Phase 8, yielding remarkable results: a 40% reduction in ammonia nitrogen wastewater conductivity and a 30% decrease in chemical reagent usage. These advancements are projected to lower carbon emissions by 15,892 tons annually and generate green benefits valued at NT\$189 million, setting a new standard in wastewater resource management.

[READ MORE](#)



SDG 7

Affordable and Clean Energy

1

Plans

Ensure access to affordable, reliable, sustainable and modern energy for all in response to SDG 7

2

Actions

01
Manufacture with greater energy efficiency

02
Use renewable energy

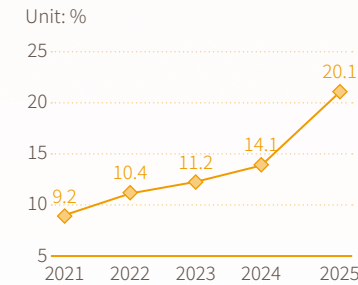
03
Work with suppliers on energy conservation



3

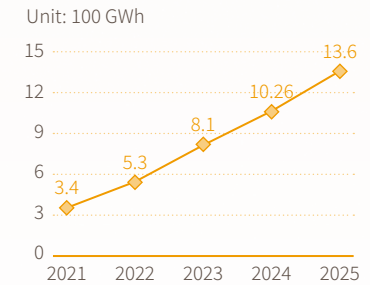
Commitments Progress

Ratio of renewable energy in production and operation sites



2030 Goals **60%**

Provide consultation on power reduction for suppliers and reduce energy consumption



2030 Goals **1,500 GWh**

4

Collaborations

Collaborate with suppliers and customers to increase process energy efficiency while also providing energy-efficient, high-performance technologies to help customers achieve product success



7.3

By 2030, double the global rate of improvement in energy efficiency

7.a

By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology



TSMC collaborates with ITRI to reutilize EUV residual hydrogen, achieving a power generation efficiency of 52.3%.

MISSION

01 | TSMC Transforms Residual Hydrogen from EUV into Green Energy

Enhancing energy efficiency is a crucial strategy for TSMC in practicing green manufacturing. With the advancement of semiconductor processes leading to increased hydrogen demand, TSMC collaborated with the Green Energy System and Environment Technology Research Laboratories of the Industrial Technology Research Institute (ITRI) to promote the "Extreme Ultraviolet (EUV) Process Residual Hydrogen Resource Utilization Project." Innovatively developing a 30 kW mixed hydrogen fuel cell power generation system, it successfully converts residual hydrogen into electricity under conditions of 50% hydrogen concentration and a flow rate of 320 liters per minute, achieving a power generation efficiency of 52.3%. This system has obtained the world's first SEMI-S2 certification for semiconductor manufacturing equipment safety, health, and environmental standards. In 2025, TSMC plans to further develop and design a 150 kW mixed hydrogen fuel cell, aiming to convert 100% of the residual hydrogen from the EUV process into electricity, promoting more environmentally friendly production management.

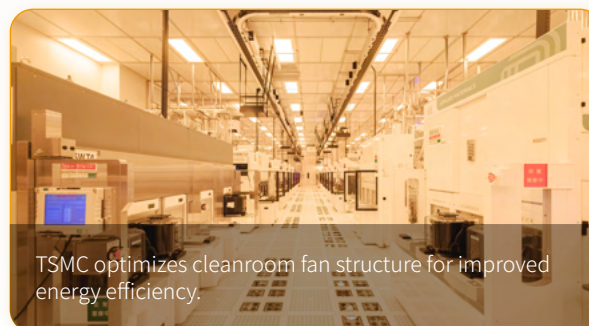
[READ MORE](#)

MISSION

02 | TSMC Improves Cleanroom Fan Filter Unit Design for 60% Efficiency Gain

TSMC is committed to Green Manufacturing and identifies opportunities to save energy and reduce carbon. The company has successfully optimized the fan structure of the fan filter unit (FFU) delivering air in cleanrooms without changing the size and operating requirements, increasing efficiency from 55% to more than 60%. In real-world testing, the improvements were shown to save an average of 156 kilowatt-hours of electricity and reduce 805 tons of CO₂e per year per fab. As of 2025, this technology was adopted by Fab 20 Phase 1 and Phase 2, Fab 22 Phase 1 and Phase 2, and Advanced Backend Fab 7 Phase 1 for about 44,000 fans, continuing to make green innovation into reality.

[READ MORE](#)



TSMC optimizes cleanroom fan structure for improved energy efficiency.



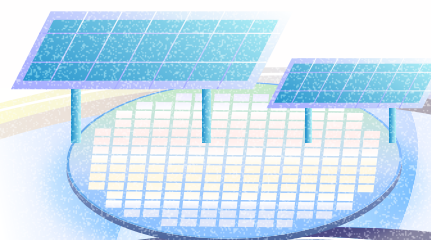
TSMC optimizes the energy usage efficiency of EUV machines, balancing energy savings and productivity.

MISSION

03 | EUV Dynamic Power Saving: A Win-Win for Energy Efficiency and Production Capacity

Enhancing energy efficiency is a cornerstone of TSMC's strategy to achieve net-zero emissions. As advanced semiconductor process technologies evolve, the number of Extreme Ultraviolet (EUV) lithography machines within our fabs grows. To pursue both technology development and environmental sustainability, TSMC collaborated with its suppliers to launch the "EUV Dynamic Energy Saving Program". Based on a successful pilot run in a fab, annual energy savings from this program are estimated to account for 8% of the tool's total yearly energy consumption. Since September 2025, this system has been progressively introduced at Fab 15B, Fab 18A, and Fab 18B. By the end of 2025, it will be fully deployed across all TSMC EUV machines globally and adopted as a standard configuration for all new fab specifications. By 2030, this program is projected to deliver cumulative electricity savings of 190 million kWh and reduce carbon emissions by 101 kilotons, achieving both significant energy conservation and sustained production capacity.

[READ MORE](#)





SDG
8

Decent Work and Economic Growth

1

Plans

Promote inclusive and sustainable economic growth and decent work for all to support SDG 8

8.3

Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services

8.5

By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value

8.8

Protect labor rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment

2

Actions

01
Offer competitive compensation

02
Strengthen industry sustainability

03
Promote workplace safety

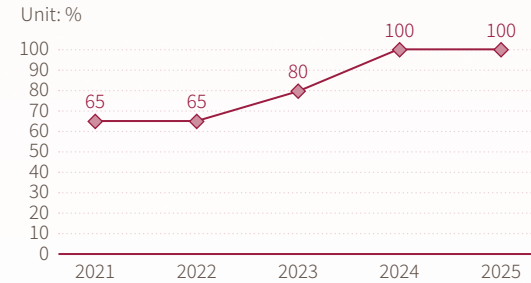
04
Support local suppliers



3

Commitments
Progress

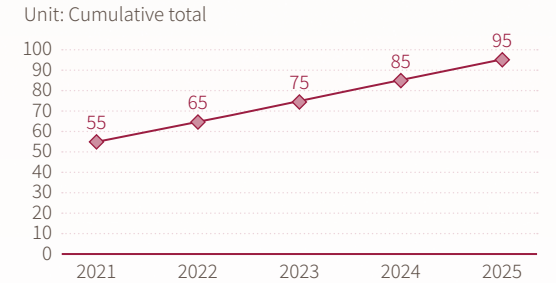
ISO 45001 Ensure local raw materials suppliers receive consultation on process advancement and quality improvement



2030 Goals

100 %

Ensure local raw materials suppliers receive consultation on process advancement and quality improvement



2030 Goals

145

4

Collaborations

Collaborate with suppliers and contractors to guarantee the human rights of all workers and create a safe and healthy workplace





TSMC establishes a smart safety training classroom to improve safety management in new construction areas.

MISSION

01 TSMC Launches 'Smart Occupational Safety Training Classroom' to Enhance Workplace Safety Management

TSMC promotes a people-oriented culture, collaborating with its supply chain to create safe working environments. In response to capacity expansion and to enhance the safety awareness and operational safety of contractors involved in the construction of wafer fabs, TSMC partnered with Taiwan's Industrial Technology Research Institute (ITRI) to develop a mobile smart occupational safety training classroom. This initiative integrates commonly used heavy machinery at construction sites with the actual environment of new construction zones and employs Virtual Reality (VR) technology to create three modular training courses: site operation, occupational hazard experience, and certification practice. Through realistic interactive processes, contractor partners can implement correct operational methods, thereby reducing the risk of occupational accidents. The training classroom, composed of two 20-foot shipping containers, can be relocated and deployed as needed to meet construction demands, enhancing the effectiveness of safety training. Following the launch of the pilot program at Fab 20 and Fab 22 in August 2024, the average deficiency rate for powered machinery operations — including forklifts, aerial work platforms, and mobile cranes — run by contractor partners decreased by 59% by 2025. Additionally, 80% of the training participants reported that the program was practically beneficial for their work, enhancing occupational safety management within the supply chain through digital transformation.

[READ MORE](#)

MISSION

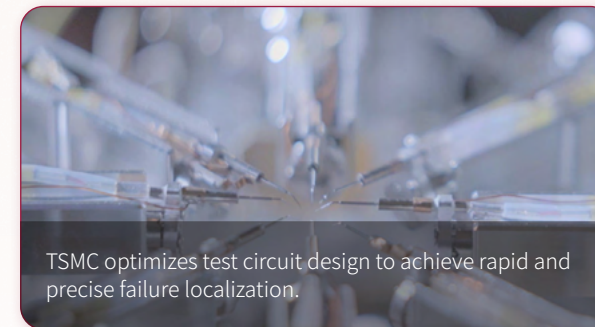
02 Promotion Program for Personal Protective Equipment in Diverse Sizes Benefits Over 30,000 People

TSMC promotes a people-oriented and friendly workplace. As the number of employees and on-site contractors continues to grow, TSMC remains committed to ensuring workplace safety by enabling every worker to select appropriate Personal Protective Equipment (PPE) to minimize injury risks. To advance this mission, TSMC proactively launched a collaboration between business, government, and academia to launch the "PPE in Diverse Sizes Promotion Program." As part of this initiative, TSMC supported Taiwan's Occupational Safety and Health Administration in establishing the "Guidelines for Selecting Personal Skin Protection Equipment for Chemical Hazards." Additionally, TSMC worked with suppliers to introduce and develop a wide range of PPE sizes for workers at TSMC fabs. As of 2025 ^[1], TSMC had introduced 10 categories totaling 30 types of compliant PPE, benefiting 39,832 people. In addition, TSMC is further extending its influence, collaborating with experts in industry, government, and universities to develop diverse PPE tailored to the physique of Asians. The project has already completed the development of five designs for chemical protective clothing, aiming to enhance safety and comfort for even more workers in the future, setting a new benchmark for workplace safety.

[READ MORE](#)



TSMC collaborates with industry, government, and academia to develop protective equipment in diverse sizes, enhancing worker safety.



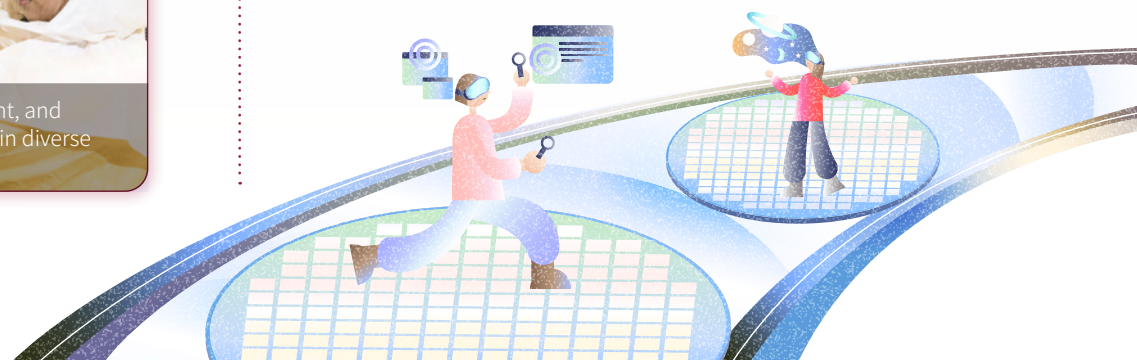
TSMC optimizes test circuit design to achieve rapid and precise failure localization.

MISSION

03 TSMC Innovates Test Circuit Design to Boost Analysis Efficiency by 70%

Strengthening quality capabilities is a crucial pillar of technology leadership. In response to the increasing complexity of semiconductor manufacturing processes, TSMC invests in research and development of testing technologies. By optimizing the design of test circuits ^[1] embedded in chips, the company has significantly enhanced the efficiency of failure analysis for its R&D teams. This innovation enables rapid identification of potential risks in chips and processes, reducing the time required for failure analysis in laboratories. The optimized design is also applied to manufacturing processes for detection and analysis, shortening the learning curve for new manufacturing processes and accelerating yield improvement. As of 2025 ^[1], the efficiency of failure analysis has increased by an average of over 70%, demonstrating the Company's commitment to leveraging innovative approaches to raise the effectiveness of quality management.

[READ MORE](#)





SDG
9

Industry, Innovation and Infrastructure

1

Plans



Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation to support SDG 9

2

Actions

01

Encourage innovation

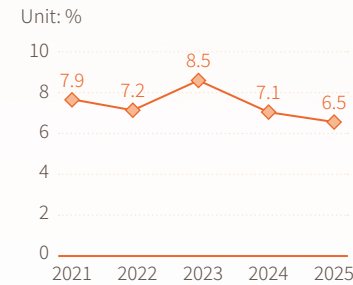
3

Commitments
Progress

4

Collaborations

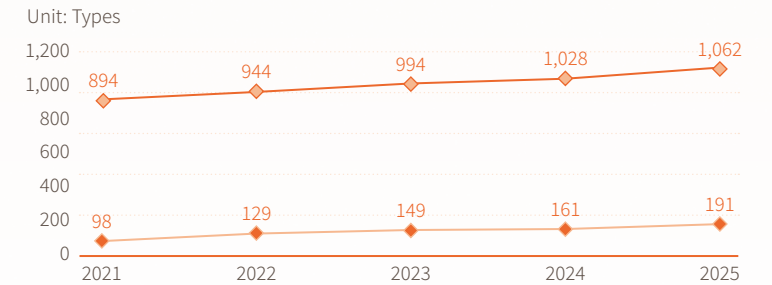
R&D expenses to revenue percentage



2030 Goals

6%

Types of Technology for Customers



Types of wafer manufacturing technology

2030 Goals

1,200

Types of advanced packaging technology

2030 Goals

270

9.4

By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities

9.b

Support domestic technology development, research, and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities

Form alliances with the industry, universities, and students to increase TSMC's capacity for innovation and skillsets to realize product value





TSMC collaborates with supplier to improve filter cleaning techniques, reducing TMAH waste discharge.

MISSION

01

TSMC Collaborates with Supplier to Upgrade Filter Cleaning Methods to Reduce 3,780 Tons of Chemical Waste

Driving a green and low-carbon supply chain is one of TSMC's core strategies for practicing sustainable development. As advanced manufacturing processes evolve, demand for the chemical Tetramethyl Ammonium Hydroxide (TMAH) continues to rise. Addressing the challenge of increased filter consumption during the TMAH filtration process, TSMC has guided its suppliers to upgrade filter cleaning methods. These upgrades have not only successfully doubled filter lifetimes but also reduced cleaning frequency, reducing waste chemical discharge. As of 2025^[1], this effort has resulted in average annual savings of 431 filter units and reduced waste chemical discharge by 2,958 tons, further promoting environmentally friendly practices and green manufacturing capabilities.

READ MORE

MISSION

02

Unveils A14 Process at Technology Symposium to Advance the AI Future

TSMC continues to drive technology leadership at its 31st Technology Symposium, themed "Advancing the AI Future," by unveiling its next cutting-edge logic process technology, A14, to global customers. Compared with the N2 process, A14 will offer up to 15% speed improvement at the same power, or up to 30% power reduction at the same speed, along with more than 20% increase in logic density. Production is planned to begin in 2028. Leveraging the Company's experience in design-technology co-optimization for nanosheet transistor, TSMC is also evolving its TSMC NanoFlex™ standard cell architecture to NanoFlex™ Pro, enabling greater performance, power efficiency, and design flexibility. In addition to A14, TSMC also debuted its latest industry-leading advanced logic, specialty technologies, and TSMC 3DFabric® for advanced 3D chip stacking and packaging, equipping customers with a comprehensive suite of interconnected technologies to drive product innovation and continually advance the AI future. TSMC topped last year's in-person attendance with more than 6,900 total visitors for symposiums in North America, Taiwan, Europe, Japan, and China, demonstrating continued strong customer support. Semiconductors are the cornerstone of technological innovation and societal progress. With the advent of the AI era, the integration of smart connectivity is accelerating, accompanied by rapidly-growing demand for energy-efficient computing. TSMC will continue to invest in semiconductor technology development, enhance advanced system integration services, deepen its commitment to green manufacturing, and expand its global manufacturing footprint. By collaborating with customers, TSMC aims to accelerate product innovation and create a more sustainable and better future.

READ MORE



TSMC "Innovation Zone" showcases emerging customers' latest innovations.



TSMC optimizes its waste sulfuric acid reclaim system, improving both processing efficiency and stability.

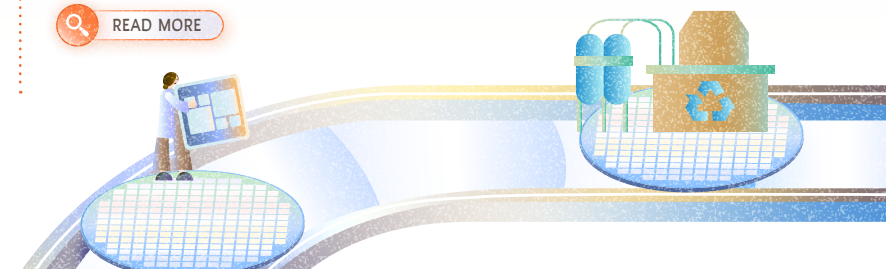
MISSION

03

"Waste Sulfuric Acid Reclaim System 2.0": Win-win in Conservation & Performance

TSMC is building a green ecosystem to support circular economy. Following the launch of its pioneering [Waste Sulfuric Acid Reclaim System 1.0](#), which [achieved zero purchase of industrial-grade sulfuric acid](#), the Company further developed a new catalyst^[1] and introduced high-temperature and corrosion-resistant glass-lined reactors^[2]. These innovations overcome issues including equipment corrosion and peeling of reactor linings after years of operation, and led to a comprehensive upgrade to "Waste Sulfuric Acid Reclaim System 2.0". The system was installed at Fab 15B in 2024 and has been verified after completing one year of actual operation, demonstrating significant performance improvements: the new catalyst reduced the corrosion rate of stainless steel equipment by 98%, decreased catalyst consumption by 99%, and shortened chemical reaction time by over 80%. The glass-lined reactors effectively prevent the peeling of internal linings, enhancing equipment durability. As of 2025, the Waste Sulfuric Acid Reclaim System 2.0 has been incorporated into the standard design for new fabs, further expanding the value of material regeneration.

READ MORE



SDG 12

Responsible Consumption and Production



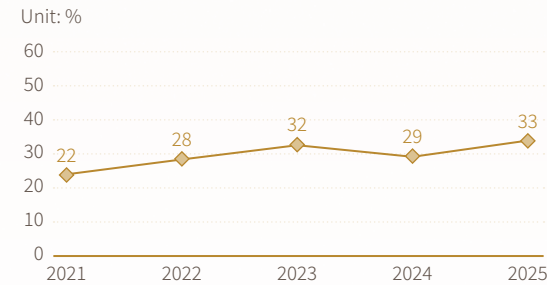
01
Reduce industrial waste output

02
Carry out circular economy

03
Implement chemical management

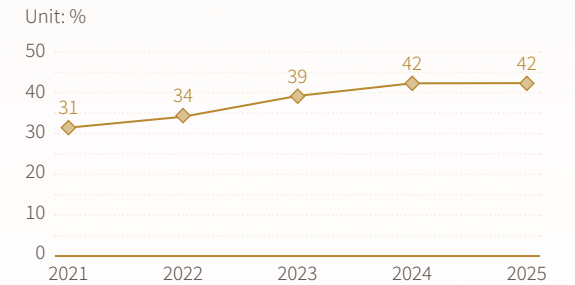


In-house resource recycling rate



2030 Goals **70%**

Waste production among local major suppliers reduced



2030 Goals **42%**

12.5

By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse

12.7

Promote public procurement practices that are sustainable, in accordance with national policies and priorities

Share TSMC's experience with waste disposal firms, suppliers, and the government to foster a circular economy-based production model





TSMC's initiative to recycle and reuse scrap wafers deepens the value of resource regeneration.

MISSION

01 CoWoS® Sustainability Drive: Turning Waste into Wealth, Saving NT\$700 Million with Recycled Wafers

Driving a circular economy is another cornerstone of TSMC's sustainable operations. As production capacity expands, demand for TSMC's CoWoS® advanced packaging technology is experiencing rapid growth. As a result, the consumption of dummy dies – essential for reinforcing the structural stability of packaging – has also surged. To enhance resource efficiency, TSMC has partnered with suppliers to develop a specialized processing technology. This innovation successfully re-engineers scrap wafers from the front-end process which would otherwise be discarded into dummy dies that meet the stringent specifications and quality requirements of the back-end process. As of December 2025, dummy dies re-manufactured from recycled wafers are expected to be integrated into Advanced Backend Fab 3, Advanced Backend Fab 5, and Advanced Backend Fab 6. This initiative is estimated to reduce carbon emissions by 10,205 metric tons annually and generate an impressive green benefit of NT\$746 million, marking a new milestone in resource regeneration.

[READ MORE](#)

MISSION

02 TSMC Introduces Blue Ammonia, a First for Taiwan's Semiconductor Industry

TSMC continues to promote a greener and low-carbon supply chain. In addition to collaborating with suppliers to develop electronic-grade recycled materials such as recycled Cyclopentanone, TMAH, and IPA, the Company is expanding its decarbonization efforts through the launch of its first "Blue Ammonia Adoption Project," a joint project with aqueous ammonia suppliers. Through four key strategies, TSMC successfully encouraged upstream liquid-ammonia producers to adopt blue ammonia, which incorporates carbon capture and storage technologies into the production process. Compared with conventional gray ammonia, blue ammonia can reduce the carbon footprint by 60%–70%. Aqueous ammonia is a critical chemical in semiconductor manufacturing, essential for maintaining wafer cleanliness and performance. However, nearly 80% of its carbon footprint originates from the upstream production of liquid ammonia, making it a key challenge for supply-chain decarbonization. Aqueous ammonia produced from blue ammonia was officially adopted by TSMC's Fab 14A in Q4 2025, making TSMC the first semiconductor company in Taiwan to utilize blue ammonia. This initiative is expected to reduce emissions by approximately 250 metric tons per quarter. With full implementation across all fabs by 2030, annual emissions reductions could reach 70,000 metric tons, further strengthening the Company's green operations.

[READ MORE](#)



TSMC is the first semiconductor company in Taiwan to adopt blue ammonia.



A TSMC lab analyzes extended-lifecycle raw material performance to ensure process quality.

MISSION

03 "Material Value Extension Management Program": 30-50% Extension in Raw Material Lifecycles

To address the supply chain logistics challenges of increased raw material usage and longer transportation times from TSMC's global expansion, the Company has collaborated with 18 suppliers to launch the "Material Value Extension Management Program." This program focuses on improving resource efficiency by evaluating lifecycle extension for raw materials critical to five semiconductor processes: lithography, target, chemical, gas, and chemical mechanical polishing (CMP). As a result, the lifecycles of 15 raw materials have been successfully extended by 30% to 50%, significantly reducing waste and carbon emissions while simultaneously bolstering supply chain operational resilience and sustainable risk control. Improving supply chain sustainability is key to strengthening TSMC's ESG efforts. The Company will continue partnering with suppliers to assess the lifecycles of diverse raw materials and transport methods. The goal is to achieve an optimal balance between efficient resource utilization and stable process quality, optimizing expiration management and realizing mutual prosperity across the industry.

[READ MORE](#)



SDG 13

Climate Action

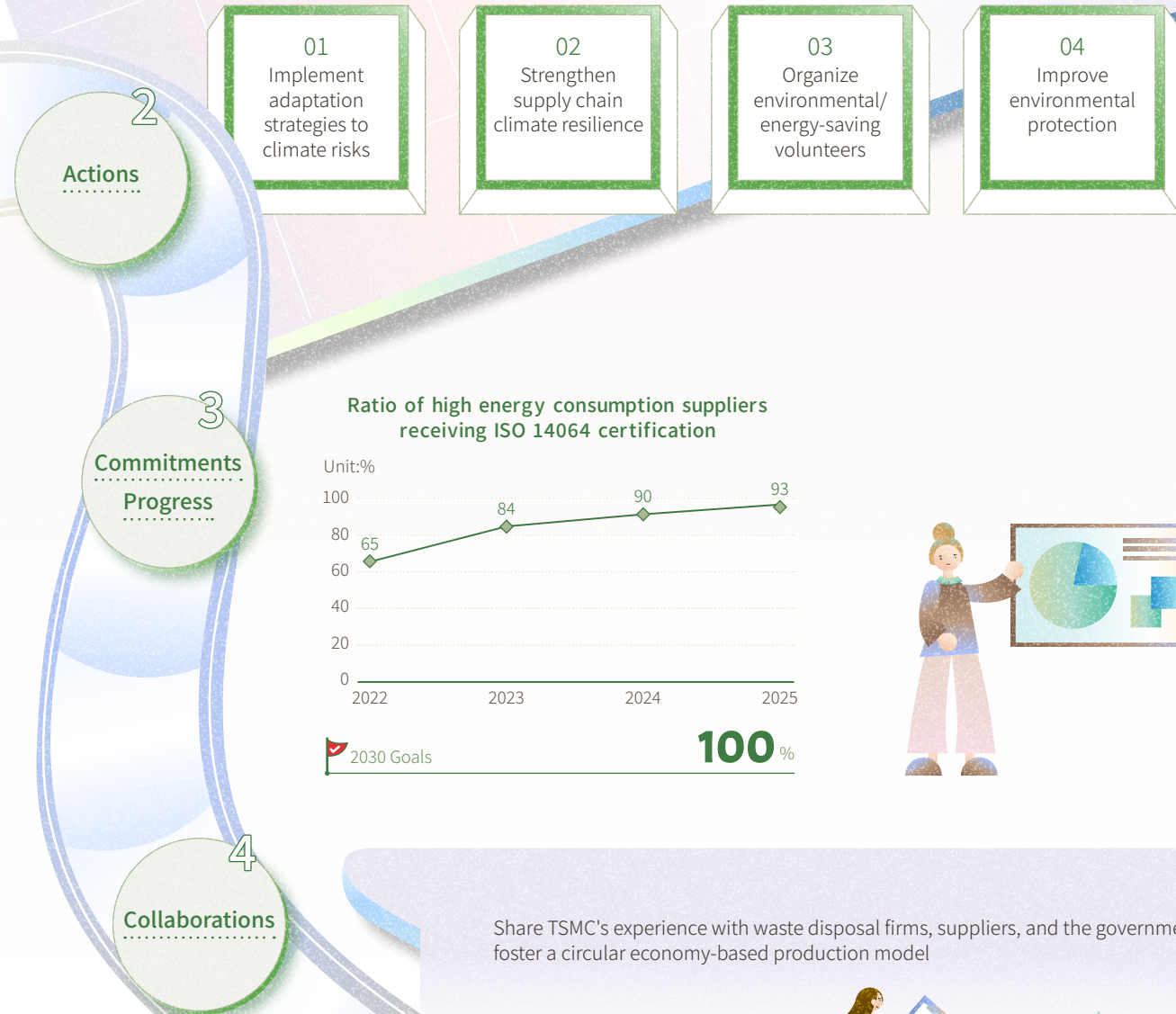
1

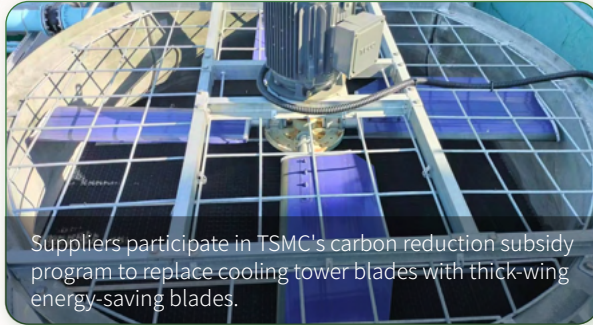
Plans

Develop comprehensive mitigation and adaptation measures to combat climate change and its impact to support SDG 13

13.1
Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries

13.3
Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning





Suppliers participate in TSMC's carbon reduction subsidy program to replace cooling tower blades with thick-wing energy-saving blades.

MISSION

01 TSMC Subsidizes Suppliers for Carbon Reduction, Driving Green Investments Worth NT\$6.7 Billion

Promoting a green and low-carbon supply chain is essential for TSMC to achieve its [net-zero emissions goal](#). In addition to [incorporating carbon reduction performance as a criterion for selecting suppliers](#), TSMC established a supply chain carbon reduction action guide [\[1\]](#) to enhance the sustainable operations of its suppliers. In 2024, specifically targeting tier one [\[2\]](#) raw material [\[3\]](#) suppliers with facilities in Taiwan, TSMC launched a carbon reduction subsidy project for the first time, offering a total of NT\$84 million in subsidies. This financial support encouraged suppliers to update, replace, or install new equipment to reduce emissions. In 2025, 31 suppliers passed the proposal evaluation, driving a total carbon reduction investment of NT\$6.7 billion and reducing carbon emissions by 80,000 MT CO₂e, equivalent to the annual carbon sequestration capacity of approximately 8,000 hectares of forest [\[4\]](#), continuing to drive the green transformation of the supply chain.

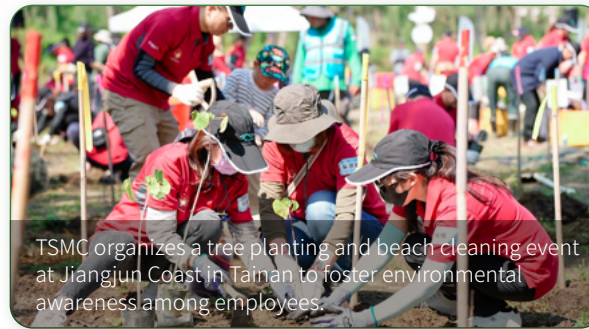
[READ MORE](#)

MISSION

02 TSMC Pioneers Taiwan's First Coastal Afforestation Carbon Offset, Reducing Over 1,000 Tons of Emissions

TSMC places great importance on environmental sustainability, guided by its ["Biodiversity Statement."](#) The Company is dedicated to strengthening climate resilience through its Plant A Tree Program, which focuses on three main aspects—afforestation, plant restoration, and volunteer activities. To mitigate coastal erosion and airborne dust in coastal regions, TSMC partnered with Taiwan's Taichung City Government on an afforestation project near the Nanzhuang seawall in Da'an District. Covering approximately 2.834 hectares, this initiative involves planting a total of 44,850 coastal tree species [\[1\]](#). In February 2024, TSMC applied to the Ministry of Environment for the Voluntary Greenhouse Gas Reduction Project [\[2\]](#), utilizing the Ministry-approved "Afforestation and Reforestation Carbon Sink Project Activities" reduction methodology. This approach has been verified by a third-party inspection agency. In January 2025, the project received approval from the Ministry of Environment, making it the first successful case in the country to achieve carbon sink registration through coastal afforestation. It is estimated that the project will generate approximately 1,011 metric tons of carbon dioxide equivalent (CO₂e) carbon credits over the next 30 years, thereby deepening TSMC's green impact.

[READ MORE](#)



TSMC organizes a tree planting and beach cleaning event at Jiangjun Coast in Tainan to foster environmental awareness among employees.



TSMC optimizes electric-heating local scrubbers to improve the reduction rate of N₂O.

MISSION

03 TSMC Optimizes Control Equipment Treatment System to Achieve 90% Reduction Rate for N₂O

TSMC is committed to achieving the goal of minimal air pollutant emissions, while strengthening the treatment performance of its control equipment. In addition to [reducing NOx emissions by 60%](#), TSMC cooperated with suppliers to initiate the "N₂O reduction project" to improve air emissions quality by retrofitting on-site electric heating treatment equipment. Testing by the third-party verification department of the Industrial Technology Research Institute (ITRI) showed that the N₂O reduction rate of electric-heating local scrubbers increased from 42% to 90%, and NOx discharge was further reduced by 40%. It also passed SEMI S2 and feasibility review by TSMC's New Tool and New Chemical Review Committee. As of 2025 [\[1\]](#), it has been introduced into Fab 12A, Fab 12B, Fab 14A, Fab 14B, Fab 15A and Fab 15B and included in the standard design for new fabs to improve their air pollution processing ability.

[READ MORE](#)



Initiative and Impact

TSMC believes that SDG 17—Partnerships for the Goals—is essential to achieving sustainable development. By actively aligning with global sustainability initiatives, TSMC works with stakeholders to drive cross-disciplinary, cross-industry, and cross-sector collaboration, thereby deepening sustainable impact across the value chain.

In 2025, to accelerate progress toward the SDGs, TSMC aligned with the "Forward Faster" initiative launched by the United Nations Global Compact. Recognizing that the semiconductor industry is highly dependent on energy and water, the Company focuses on two critical areas: Climate Action and Water Resilience. By establishing science-based decarbonization pathways and water-positive targets, TSMC is working with global stakeholders to support a sustainable future.

(Net-Zero) Achieve Net-Zero Emissions

Commitments

Key Strategies

Submit plans aligned with the Science Based Targets initiative (SBTi) to achieve the 2050 net-zero emissions target through "low-carbon manufacturing" and "energy transition."

Targets

By 2030

Reach 60% renewable energy use across global operations (RE60)

By 2040

Achieve 100% renewable energy usage across global operations (RE100)

By 2050

Achieve net-zero emissions

Specific Actions

Energy Mix Optimization

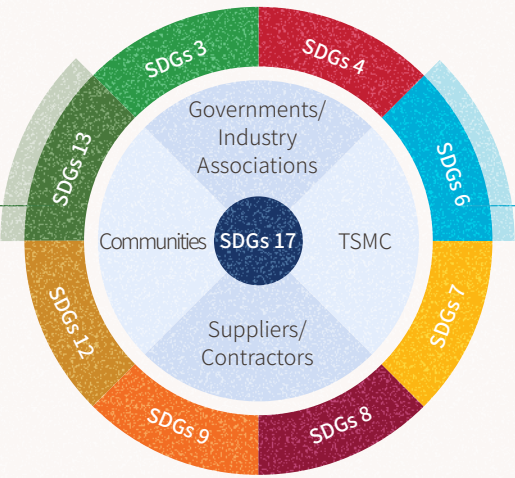
Sign long-term Power Purchase Agreements to support the development of the renewable energy market.

Low-Carbon Manufacturing Processes

Install high-efficiency abatement equipment and shift to specialty gases with low-global-warming-potential to reduce manufacturing emissions.

Supply chain enablement

Require suppliers representing 90% of raw material carbon emissions to sign carbon reduction commitments, and provide subsidy programs to achieve shared decarbonization targets.



Enhance Water Resilience

Commitments

Key Strategies

Establish a global "Water Positive" target by 2040 and integrate water resource stewardship into the core of the Company's climate adaptation strategy.

Targets

By 2030

Achieve a Water Positive rate of 65% or higher across global operations

By 2040

Achieve a 100% Water Positive rate across global operations

Specific Actions

Reclaimed Water Utilization

Develop water reclamation technologies, converting industrial wastewater into process-ready reclaimed water via the Southern Taiwan Science Park Reclaimed Water Plant

Desalinated Water Procurement

Support national water diversification policies by actively securing and executing long-term desalinated water purchase agreements

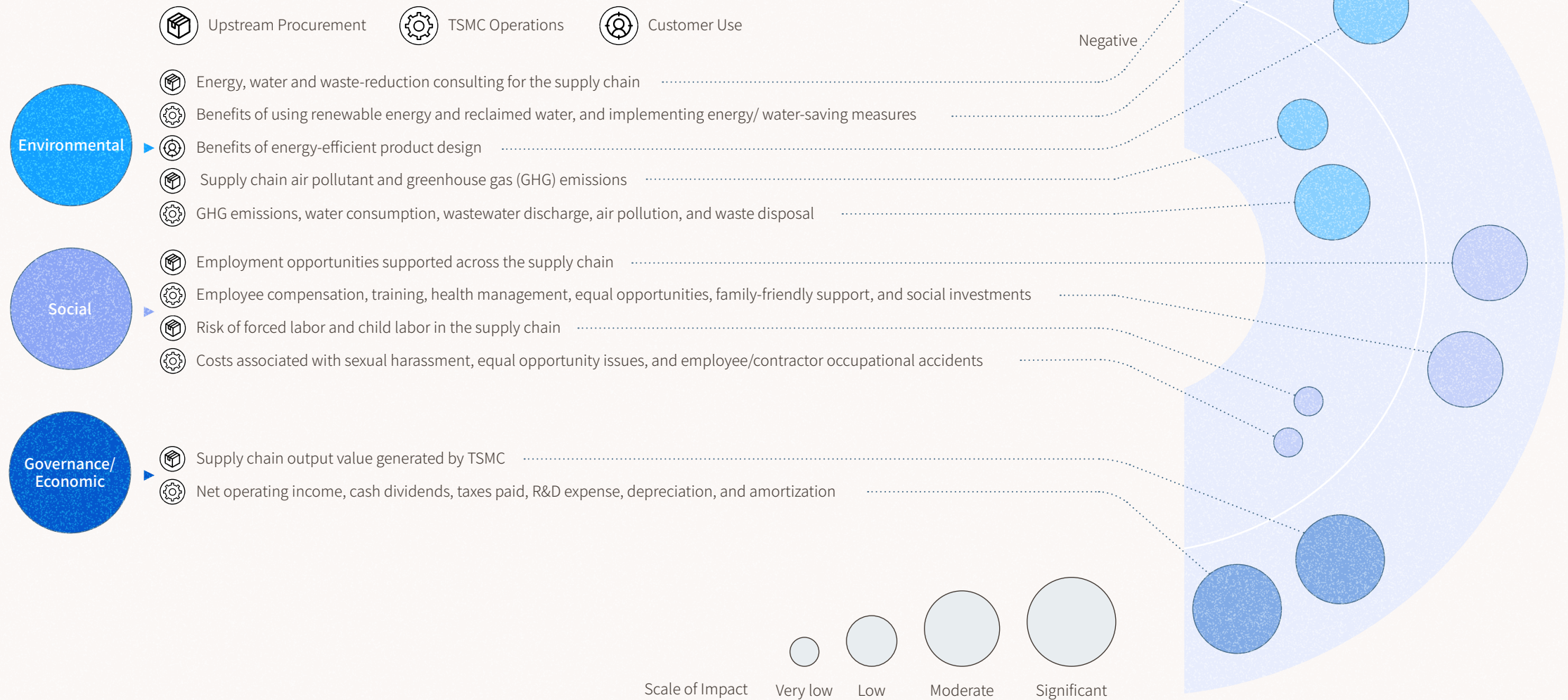
Emerging Water Sources Development

Collaborate with industry, government, and academia to research brackish water use in tidal river reaches and atmospheric water harvesting technologies to improve water supply stability

Water Resource Restoration

Invest in river basin restoration and agricultural irrigation efficiency research, while driving localized watershed conservation initiatives across global sites.

To ensure its sustainability efforts generate measurable value for society, TSMC adopts a dual-dimension assessment approach at both the organizational and project levels. At the organizational level, the Company applies an Impact Measurement and Valuation (IMV) framework to monetize and quantify, from an objective external perspective, the positive benefits and associated risks its operations create for stakeholders. In 2025, across the "Upstream Procurement, TSMC Operations, and Customer Use" stages of its value chain, TSMC generated 21 positive impacts and 13 negative impacts. For details, please refer to the [TSMC Sustainability Impact Valuation Report](#).



At the project level, TSMC in 2025 conducted in-depth impact assessments on 24 selected sustainability initiatives. Utilizing qualitative analysis, quantitative statistics, and monetary valuation, the Company evaluated how these projects created positive impacts across three core dimensions: "Behavioral or Attitudinal Change," "Quality of Life or Well-being," and "Skills or Job Performance." In terms of stakeholder engagement, these initiatives saw more than 30,000 employee participations, 30,000 participations from the general public and youth, and 6,926 instances of supply chain partner participation. Together, these stakeholders fostered cultural enrichment while driving the widespread adoption of sustainability awareness and the growth of professional skills. Furthermore, monetized impact assessments of seven selected cases demonstrated that they generated NT\$2.1 billion in external environmental and social benefits.

Looking ahead, guided by global initiatives and methodologies, TSMC will continue to drive progress toward the SDGs, optimize its sustainability strategies and resource allocation, and expand positive impact. At the same time, the Company will deepen internal, cross-functional collaboration and strengthen external strategic partnerships with external value chain partners to collectively lead society toward a more prosperous and sustainable future.



SDG 3 Good Health and Well-being

Quantitative Indicators



Global Healthcare Support

2,000 Overseas Deployed, Traveling, and Training Employees Benefited



Accessibility Experience Days

Accessibility@tsmc 1,194 Attendances, 257 Joined Accessibility@tsmc

Establish Pride@tsmc

2,484 Total Participants



SDG 6 Clean Water and Sanitation

Quantitative Indicators



Optimizes PFAS Detection Methodology

86% Efficiency Boosted

TSMC (Nanjing) "Facility Environmental Laboratory"

61% Air Pollutant Emissions Reduced
19% Water Pollution Indicators Composite Reduction Rate Improved

Quantitative Indicators, Currency Value

Breakthrough in Water Management

15,892 Metric Tons of Carbon Emissions Reduced, Generating NT\$ 120 Million in Carbon Reduction Benefits
NT\$ 189 Million Green Benefits Valued



SDG 4 Quality Education

Quantitative Indicators



TSMC Hsin-chu Arts Festival

30,000 Attendances



First "Science Train" to South Taiwan

9 Primary Schools, 1,000 Students Participated



International Biodiversity Forum and Award Ceremony

55 Domestic and International Submissions from Industry, Government, Academic, and Research Institutions
130 Judges Selected 22 Entries



SDG 7 Affordable and Clean Energy

Quantitative Indicators



Transforms Residual Hydrogen

100% Residual Hydrogen Converted into Electricity from EUV Process

Quantitative Indicators, Currency Value

Improves Cleanroom Fan Filter Unit Design

805 Metric Tons of Carbon Emissions Reduced, Generating NT\$ 6.11 Million in Carbon Reduction Benefits
44,000 Cleanroom Fan Filter Unit Design Technology Adopted

Dynamic Power Saving

190 Million kWh Electricity Savings Estimated (By 2030)
101,000 Metric Tons of Carbon Emissions Reduced, Generating NT\$ 770 Million in Carbon Reduction Benefits



SDG 8 Decent Work and Economic Growth

Quantitative Indicators



Smart Occupational Safety Training Classroom

59% Average Deficiency Rate Decreased
80% Participants Reported Beneficial

Innovates Test Circuit Design

70% Analysis Efficiency Boosted



Personal Protective Equipment in Diverse Sizes

30 Types of Compliant Personal Protective Equipment
39,832 People Benefited



SDG 12 Responsible Consumption and Production

Quantitative Indicators, Currency Value



CoWoS® Sustainability Drive

10,205 Metric Tons of Carbon Emissions Reduced, Generating NT\$ 77.44 Million in Carbon Reduction Benefits

Introduces Blue Ammonia

70,000 Metric Tons of Carbon Emissions Reduced, Generating NT\$ 320 Million in Carbon Reduction Benefits

Quantitative Indicators

Material Value Extension Management Program

15 Raw Materials have been successfully extended by 30% to 50%



SDG 9 Industry, Innovation and Infrastructure

Quantitative Indicators, Currency Value



Collaborates with Supplier to Upgrade Filter Cleaning Methods

Average annual savings of 431 filter unit
2,958 Metric Tons of Waste Chemical Discharge Reduced

Quantitative Indicators

Technology Symposium

6,900 Total Visitors

Qualitative Description

Waste Sulfuric Acid Reclaim System 2.0

Incorporated into the Standard Design for New Fabs



SDG 13 Climate Action

Quantitative Indicators, Currency Value



Subsidizes Suppliers for Carbon Reduction

NT\$ 6.7 Billion Carbon Reduction Investment
80,000 Metric Tons of Carbon Emissions Reduced, Generating NT\$ 610 Million in Carbon Reduction Benefits

First Coastal Afforestation Carbon Offset

Estimated 1,011 Metric Tons of CO₂e Carbon Credit (By 2055), Generating NT\$ 7.67 Million in Carbon Reduction Benefits

Quantitative Indicators



Optimizes Control Equipment Treatment System

40% NO_x Discharge Reduced



Quality of Life or Well-being



Skills or Work Performance



Behavioral or Attitude Change

Qualitative Description: The contributions of sustainability action plans to human well-being.

Quantitative Indicators: The measurable contributions of sustainability action plans to human well-being, expressed in terms of performance metrics.

Currency Value: The monetized impacts of sustainability action plans on human well-being, derived through formula-based calculations.



2025 TSMC UN SDGs Action Report

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