TSMC 2025

Sustainability Impact Valuation Report

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Letter from the ESG Committee Chairperson

Corporate value lies not only in financial performance, but also in the positive impact a company creates for society and the environment. Beyond advancing its core business and delivering sustained, long-term financial growth, TSMC follows the belief that creating value for others builds the foundation for shared prosperity. Guided by its commitment to "Impact Beyond Responsibility," the Company has made "impact" a key indicator of operational resilience and established a transparent, science-based, and consistent decision-making framework. In doing so, TSMC seeks to advance human well-being alongside commercial profitability.

TSMC adopted the Environmental Profit and Loss (EP&L) assessment framework in 2018 and has continued to expand its sustainability impact evaluation and analysis capabilities, tracking the positive and negative effects of value chain activities on human well-being. In 2025, the Company established three impact pillars based on environmental, social, and governance (ESG) principles: 1) Planet—Refining Green Manufacturing, 2) Prosperity—Fostering Human-Centric Value, and 3) Pioneer—Empowering Tech for Good. Through the lens of Integrated Profit and Loss (IP&L), TSMC connects six forms of capital—Finance, Manufacturing, Intelligence, Human Resources, Environment, and Society—to demonstrate the tangible value and broader impact it creates for stakeholders worldwide while generating economic value.

In 2025, alongside the expansion of its global operations, TSMC updated its EP&L methodology from a regional to a global perspective, following the latest frameworks from the International Foundation for Valuing Impacts (IFVI) and the Value Balancing Alliance (VBA). This ensures that the value of human life and health is assessed consistently, regardless of geography. To strengthen management applications, TSMC also adopted the Decoupling Rate methodology for the first time, measuring the relationship between operational growth and climate adaptation resilience. Analysis shows that its external environmental cost per NT$100 of revenue fell from NT$4.1 in 2021 to NT$2.7 in 2025, achieving a positive decoupling rate of 8.7%. Building on these findings, the Company continues to optimize resource allocation and decision-making to align business growth more closely with environmental protection and shared prosperity, creating long-term value.

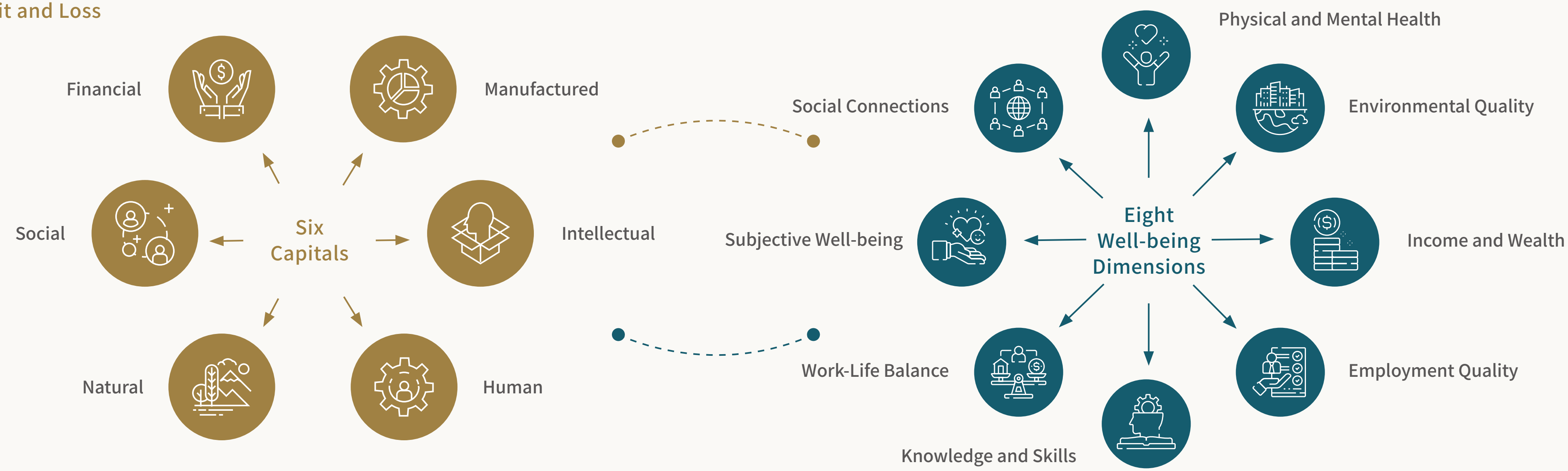
Guided by its founding commitment to "Driving Positive Change," TSMC has internalized an impact-oriented mindset into its operations, navigating risks and capturing opportunities amid global uncertainty. Sustainability is a marathon across generations, and TSMC continues to work closely with stakeholders, integrating sustainability into daily operations and decision-making, building social trust, and creating momentum for delivering net positive impact to the world.

Lora Ho
Senior Vice President and ESG Committee Chairperson

About This Report

This report applies the Impact Measurement and Valuation methodology to monetize the environmental and social externalities arising from TSMC's operations. In 2025, TSMC introduced the concept of Integrated Profit and Loss for the first time, incorporating six capitals and referencing the eight dimensions of well-being proposed in the OECD framework "Measuring Business Impacts on People's Well-being and Sustainability." This provides stakeholders with a lens for analyzing both financial and non-financial performance and serves as a key foundation for TSMC's efforts to promote shared development across the economy, environment, and society. This report presents TSMC's 2025 sustainability impact analysis, demonstrating how the Company integrates impact thinking into decision-making and value creation. It serves as a guide for stakeholders to understand TSMC's sustainability performance. For a more comprehensive view, readers are encouraged to consult the TSMC Sustainability Report and other theme reports.

Integrated Profit and Loss



Edition	Reporting Period	Reporting Scope
Third Edition	January 1 to December 31, 2025	The scope of information disclosed in this report aligns with the boundary of TSMC's consolidated financial statements, including Taiwan facilities (headquarters, all wafer fabs in Taiwan, and advanced backend fabs), TSMC China, TSMC Nanjing, TSMC Washington, TSMC Arizona, JASM, VisEra, and other subsidiaries. Any deviation from this scope is noted in the relevant section.

Sustainability Report and Other Theme Reports

TSMC Sustainability Report

The "Sustainability Impact" chapter describes how TSMC builds a value creation model based on inputs and outputs across six capitals, monetizing the annual sustainability impact valuation to serve as a channel for communication between capital markets and corporate sustainability performance.

Theme Report

Climate and Nature Report

TSMC applies the Environmental Profit and Loss (EP&L) methodology to monetize the environmental impacts of value chain activities. The Climate and Nature Report further explains the interdependencies among operations, climate, nature, and biodiversity, along with corresponding strategies.

Materiality Analysis Report

The Materiality Analysis Report details TSMC's double materiality assessment, combining impact materiality and financial materiality. Impact materiality is assessed through monetary and non-monetary approaches to determine the degree of sustainability impacts, and the monetized results are derived from this report.

UN SDGs Action Report

The UN's 17 Sustainable Development Goals (SDGs) serve as key global guidelines for sustainable development. The UN SDGs Action Report maps the positive externalities generated by TSMC's operations to the SDGs and details related management actions and outcomes.

Human Rights Progress Report

The Human Rights Progress Report describes TSMC's annual human rights management and initiatives to prevent negative human rights impacts on employees, suppliers/contractors, customers, and communities. This report analyzes the social costs of human rights risks from a value chain perspective.

Assessment Methodology

How Impact Is Calculated

TSMC follows scientific principles and credibility standards by adopting international methodologies from organizations including the Value Balancing Alliance, the Impact-Weighted Accounts Initiative of Harvard Business School, the International Foundation for Valuing Impacts, WifOR Institute, the Capitals Coalition, and the International Organization for Standardization. TSMC developed an "Impact Pathway" to identify the causal relationships between its operations and social and environmental impacts. The Company monetizes the assessment results (presented as equivalent values in NTD), providing management insights compatible with financial reporting. This approach also establishes cross-functional decision-making criteria beyond traditional financial metrics, enabling TSMC to identify operational impacts from a forward-looking perspective and optimize resource allocation across the value chain.

This report assesses three stages of the value chain: upstream procurement, TSMC operations, and customer use. It covers 33 sustainability impact indicators to evaluate the positive and negative externalities generated by operations. TSMC identifies the environment, society, internal and external employees, customers, suppliers/contractors, shareholders/investors, and government as key affected stakeholders, and aligns each impact with material issue management strategies to enhance the connection between internal management and external impacts. For detailed information, please refer to the "Value Chain Impact Pathway."

TSMC Impact Pathway

Input
Resources required for business operations (e.g., raw materials, energy, human resources, and capital)

Output
Direct results generated by business operations (e.g., product volume, pollutant emissions, number of beneficiaries, and energy-saving benefits)

Outcome
Changes in individuals'lives, the overall environment, and social conditions resulting from operational inputs and outputs (e.g., training enables employees to acquire professional skills and additional income opportunities; air pollution contributes to respiratory diseases)

Impact
Positive or negative contributions to stakeholders'well-being, also known as externalities, covering dimensions including physical and mental health, environmental quality, income and wealth, employment quality, knowledge and skills, work-life balance, subjective well-being, and social connections

Valuation
A measurement approach that converts the impacts of business operations on stakeholders into NTD-equivalent values based on a financial P&L perspective

TSMC Value Chain and Impact Indicators

Upstream Procurement

- Supply Chain Output Value Driven by TSMC
- Supply Chain Employee Compensation
- Human Rights Risk - Forced Labor
- Human Rights Risk - Child Labor
- Supply Chain GHG Emissions
- Supply Chain Air Pollution Emissions
- Assisting Suppliers in Energy-Saving
- Assisting Suppliers in Water-Saving
- Assisting Suppliers in Waste Reduction

TSMC Operations

- Net Income After Tax
- Depreciation
- Amortization
- R&D Expenditure
- Tax Payments
- GHG Emissions from TSMC Operations
- Renewable Energy Use Benefits
- Benefits from Energy-Saving Measures
- Water Consumption from TSMC Operations
- Benefits from Reclaimed Water Use
- Benefits from Water-Saving Measures
- Wastewater Discharge from TSMC Operations
- Air Emissions from TSMC Operations
- Waste Disposal from TSMC Operations
- Compensation
- Support for Life and Family
- Sexual Harassment
- Benefits of Training to Employees' Future Income
- Equal Opportunity
- Employee Health Management
- Employee Occupational Accidents
- Contractor Occupational Accidents
- Value of Social Investments

Customer Use

- Energy-Efficient Product Design

Methodology Development

Since 2018, TSMC has applied the Environmental Profit and Loss (EP&L) methodology based on welfare economics principles to assess the environmental externalities generated by its global operations and supply chain activities. To improve accuracy and practical application, TSMC continues to expand the application of impact assessment by building a coefficient database that enhances analytical quality and improves data reliability. In 2023, TSMC expanded its assessment scope to cover three dimensions—economic, environmental, and social—allowing the Company to examine its environmental and social impacts alongside financial value creation and advance sustainable governance.

2018 — Implemented EP&L
- Focused on global manufacturing and operational sites
- environmental issues, including GHG emissions, air pollution, water pollution, waste, and water consumption

2019 — Extended Assessment to the Supply Chain
- Expanded the assessment boundary upstream to include 441 suppliers in environmental hotspot analysis

2020 — Assessed Critical Suppliers
- Broadened environmental hotspot analysis to over 1,000 suppliers
- Assessed critical raw material suppliers

2021-2022 — Enhanced the Database
- Continued development of localized coefficients
- Evaluated over 95 critical raw material suppliers and established a supplier EP&L database

2023 — Expanded Assessment Scope
- Included both upstream and downstream value chain activities
- Incorporated topics such as family-friendly support, training for future income, equal opportunities, sexual harassment, and health management
- Integrated human rights concerns in the supply chain, including child labor and forced labor

2024 — Strengthened Management Applications
- Updated social cost of carbon coefficients and incorporated ecosystem impact assessment
- Held sustainability impact workshops to cultivate an internal impact-based mindset
- Continued to enrich the supplier EP&L database

2025 — Adopted a Global Perspective
- Established three impact pillars: Planet, Prosperity, and Pioneer
- Applied global-perspective coefficients to EP&L, eliminating valuation bias caused by regional differences
- Introduced decoupling rate assessment

2018–2022: Environmental Profit and Loss (EP&L) Report

2023–2025: Sustainability Impact Valuation Report

In 2025, TSMC referenced updated methodologies from the International Foundation for Valuing Impacts and the Value Balancing Alliance, shifting monetary conversion coefficients from a "regional" to a "global" perspective. Applying globally consistent coefficients addresses valuation bias caused by differences in national income levels and improves objectivity and comparability across countries. For further methodology details, please refer to the EP&L Methodology.

	Regional Perspective – Previous Approach	Global Perspective – Current Approach
Valuation Logic	Monetary valuation factors were adjusted based on regional income levels and purchasing power parity (PPP), improving local relevance and reflecting stakeholder well-being impacts in each region. This approach was suitable for impact assessments within a single country or region.	Globally consistent monetary valuation factors are applied to ensure equal treatment of affected populations in valuation and eliminate bias arising from differences in income levels across countries. This approach supports impact assessments across multiple countries and regions
Analysis Results	The same level of pollutant emissions generated different social costs across countries and regions.	The same level of pollutant emissions generates the same social costs regardless of country or region
Significance for TSMC	Reflected the prevailing impact assessment methodology at the time	Adopted new methodology to reflect TSMC's global operational footprint

Indicators Affected

- Supply Chain Air Pollution Emissions
- Assisting Suppliers in Water-Saving
- Assisting Suppliers in Waste Reduction
- Water Consumption from TSMC Operations
- Benefits from Reclaimed Water Use
- Benefits from Water-Saving Measures
- Wastewater Discharge from TSMC Operations
- Air Emissions from TSMC Operations
- Waste Disposal from TSMC Operations

Reader's Guide

In 2025, TSMC established three sustainability impact pillars — Planet: Refining Green Manufacturing, Prosperity: Fostering Human-Centric Value, and Pioneer: Empowering Tech for Good. Through nine impact dimensions, TSMC describes the positive and negative contributions of its operations to human well-being, along with the strategies and actions taken to create net positive impact.

This Guide aims to help readers interpret each impact indicator. The report adopts a framework comprising Impact Pathway, Impact Summary, Analysis Results and Management Actions to present the full context of TSMC's impact analysis, guiding readers to gain a deeper understanding of TSMC's sustainability actions and contributions.

Three Pillars

Pioneer — Empowering Tech for Good

Planet — Refining Green Manufacturing

Prosperity — Fostering Human-Centric Value

Use Pioneer, Planet, Prosperity as the core framework for impact assessment

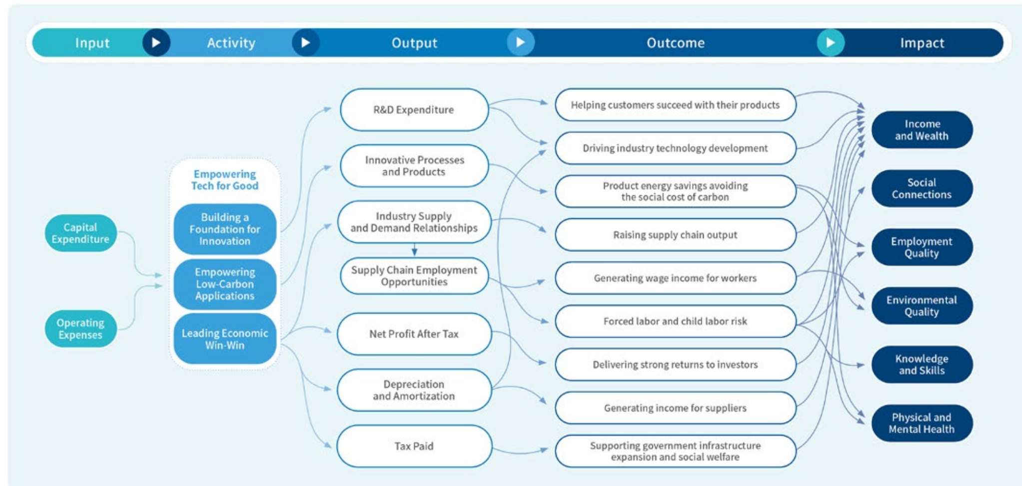
Nine Dimensions

- Pioneer: Building a Foundation for Innovation; Enabling Low-Carbon Applications; Creating Economic Win-Win
- Planet: Climate Resilience Governance; Resource Circularity Efficiency; Green Supply Chain Transformation
- Prosperity: Holistic Balanced Development; Healthy and Safe Workplace; Social Value Resonance

Describes the following nine impact dimensions and their significance and scope of influence

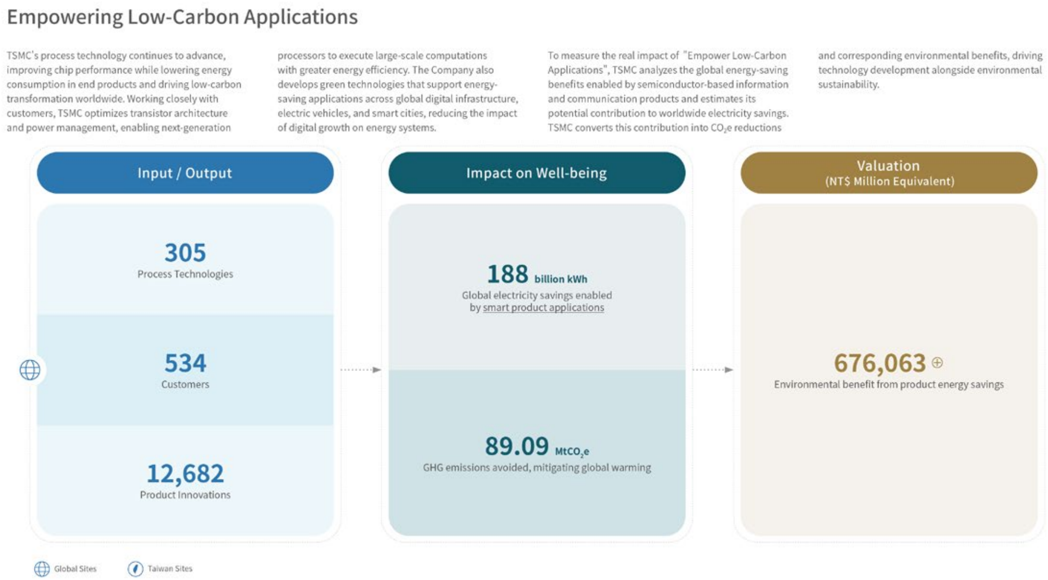
Impact Pathway

Impact Pathway



Examine the inputs, outputs, outcomes, and impacts of operations through the Impact Pathway, illustrating their positive and negative external effects on society, the environment, and human well-being

Impact Summary



Empowering Low-Carbon Applications

TSMC's process technology continues to advance, improving chip performance while lowering energy consumption in end products and driving low-carbon transformation worldwide. Working closely with customers, TSMC optimizes transistor architecture and power management, enabling next-generation processors to execute large-scale computations with greater energy efficiency. The Company also develops green technologies that support energy-saving applications across global digital infrastructure, electric vehicles, and smart cities, reducing the impact of digital growth on energy systems.

To measure the real impact of "Empower Low-Carbon Applications", TSMC analyzes the global energy-saving benefits enabled by semiconductor-based information and communication products and estimates its potential contribution to worldwide electricity savings. TSMC converts this contribution into CO_2e reductions and corresponding environmental benefits, driving technology development alongside environmental sustainability.

Input / Output

Resources invested in operations and the resulting outputs

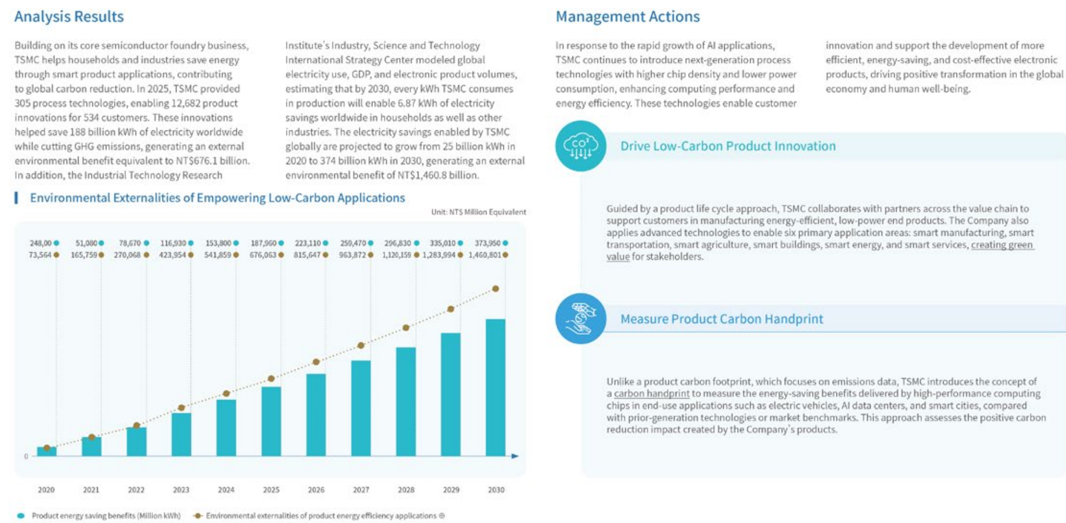
Impact on Well-being

Quantitative and qualitative representation of the positive and negative contributions of operational inputs and outputs to stakeholder well-being

Monetary Value

The relative value of the positive and negative impacts of operations on human well-being (derived through formulas and scenario modeling), rather than the absolute values reported in financial statements

Analysis Results / Management Actions



Analysis Results

Building on its core semiconductor foundry business, TSMC helps households and industries save energy through smart product applications, contributing to global carbon reduction. In 2025, TSMC provided 305 process technologies, enabling 12,682 product innovations for 534 customers. These innovations helped save 188 billion kWh of electricity worldwide while cutting GHG emissions, generating an external environmental benefit equivalent to NT$676.1 billion. In addition, the Industrial Technology Research Institute's Industry, Science and Technology International Strategy Center modeled global electricity use, GDP, and electronic product volumes, estimating that by 2030, every kWh TSMC consumes in production will enable 6.87 kWh of electricity savings worldwide in households as well as other industries. The electricity savings enabled by TSMC globally are projected to grow from 25 billion kWh in 2020 to 374 billion kWh in 2030, generating an external environmental benefit of NT$1,460.8 billion.

Environmental Externalities of Empowering Low-Carbon Applications

Management Actions

In response to the rapid growth of AI applications, TSMC continues to introduce next-generation process technologies with higher chip density and lower power consumption, enhancing computing performance and energy efficiency. These technologies enable customer innovation and support the development of more efficient, energy-saving, and cost-effective electronic products, driving positive transformation in the global economy and human well-being.

Drive Low-Carbon Product Innovation

Guided by a product life cycle approach, TSMC collaborates with partners across the value chain to support customers in manufacturing energy-efficient, low-power end products. The Company also applies advanced technologies to enable six primary application areas: smart manufacturing, smart transportation, smart agriculture, smart buildings, smart energy, and smart services, creating green value for stakeholders.

Measure Product Carbon Handprint

Unlike a product carbon footprint, which focuses on emissions data, TSMC introduces the concept of a carbon handprint to measure the energy-saving benefits delivered by high-performance computing chips in end-use applications such as electric vehicles, AI data centers, and smart cities, compared with prior-generation technologies or market benchmarks. This approach assesses the positive carbon reduction impact created by the Company's products.

Analysis Results

Describe the external impacts of operations on human well-being, monetized into equivalent NTD values, together with an analysis of recent trends and their underlying drivers

Management Actions

Link impact indicator analysis with TSMC's material issue management strategies, focusing on corresponding initiatives and targets to expand positive impact and growth potential

Sustainability Impact Across the Value Chain

"Delivering Impact Beyond Responsibility" reflects TSMC's commitment to creating long-term sustainable value. Building on the steady growth of its core business, TSMC strengthens impact management through three key pillarsRefining Green Manufacturing, Fostering Human-Centric Value, and Empowering Tech for Good, extending its positive impact across the environment and society. As technology advances, TSMC aims to enhance the well-being of every stakeholder and contribute to a better future.

In line with the European Sustainability Reporting Standards (ESRS) concept of Double Materiality and the United Nations Environment Programme (UNEP) concept of Inclusive Wealth, TSMC applies an impact-based approach to identify and measure the social and environmental externalities of its operations. Building on its financial performance, TSMC adopts the Impact Accounting methodology to develop an integrated profit and loss model covering six forms of capital—financial, manufacturing, intellectual, human, environmental, and social. This model assesses the impacts of TSMC's operations on stakeholders, bridges capital markets and sustainability performance, and enhances investors' understanding of ESG information.

Through the input and output of its six capitals, TSMC engages closely with stakeholders, generating actual or potential, and positive or negative impacts on their well-being. In alignment with the OECD framework "Measuring Business Impacts on People's Wellbeing and Sustainability," TSMC categorizes the impacts of its value chain activities on well-being into eight categories: Physical and Mental Health, Environmental Quality, Employment Quality, Income and Wealth, Knowledge and Skills, Work-Life Balance, Subjective Well-being, and Social Connections. Using internationally recognized impact valuation methodologies, TSMC converts both positive impacts from its operations (such as talent development and energy savings) and negative impacts (such as GHG emissions and supply chain human rights risks) into monetized terms, strengthening its management decision-making process and putting into practice a sustainable development model that enhances human well-being.

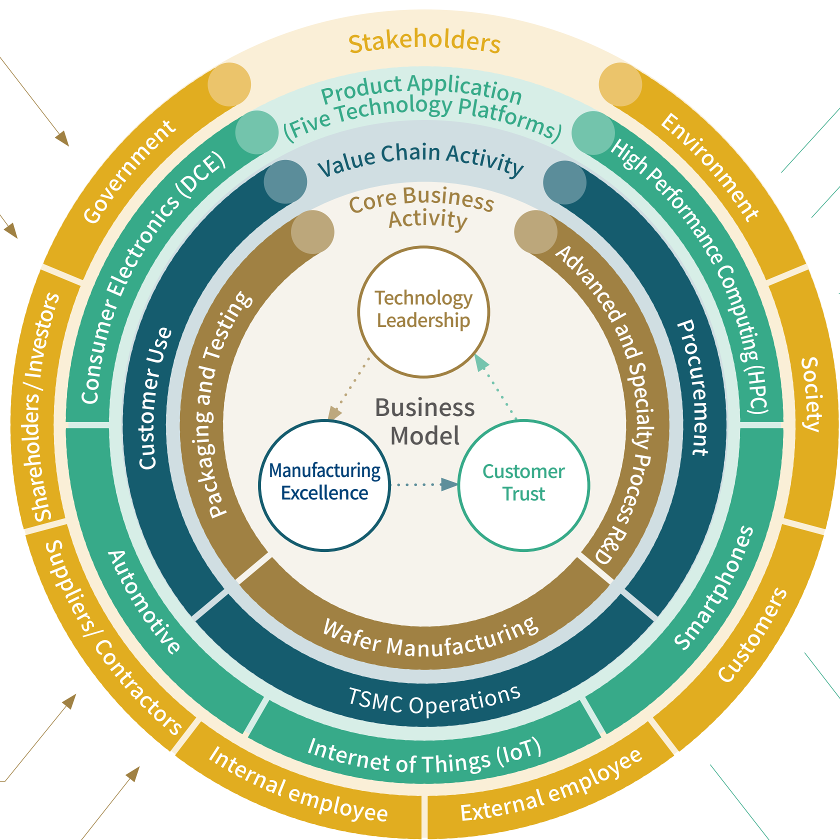
TSMC Value Creation Model

Resources used in TSMC's operations

Six Major Capitals – Input

Finance	Manage financial resources effectively to generate economic value	**5.46 Trillion** Total Equity
Manufacturing	Invest in fabs, equipment, and materials to manufacture products and deliver services	**21** Global Fabs **1.27 Trillion** Capital Expenses
Intelligence	Build knowledge and technical capabilities through ongoing R&D and innovation management	**246.4 Billion** R&D Expenses **7.7%** Growth Rate in R&D Personnel
Human Resources	Attract world-class talent while enhancing talent development and a healthy, safe work environment	**90,557** Global Full-time Employees **340.5 Billion** Compensation and Welfare Expenses **13.8 Billion** Training Expenses
Environment	Minimize natural resource consumption at the source while maintaining optimal efficiency	**27,456 GWh** Energy Consumption **20.1%** Renewable Energy Share **18%** Reclaimed Water Replacement Rate
Society	Strengthen stakeholder engagement and allocate resources effectively to create long-term positive impact	**534** Customers **1,451** Tier 1 Suppliers **909** Charity Partners

Business Model



Outputs from TSMC's operations

Six Major Capitals – Output

3.81 Trillion Revenue **28.3%** Return on Equity **291.3 Billion** Tax Payments	Finance
17 Million Wafers Capacity (12-inch equivalent)	Manufacturing
305 Process Technologies **9,722** Patent Applications **12,682** Products Innovations **150,000** Trade Secret Registrations	Intelligence
15% Female Managers **90.4** Average Annual Training Hours per Employee **58** Disabling Injury Incidents	Human Resources
1,583 Million Metric Tons of CO2e GHG Emissions (Scope 1 & 2) **5.6 Billion** Energy Savings from Processes **318.9 Million Cubic Meters** Reclaimed Water Volume from the Overall Recovery System	Environment
96% Customer Trust and Satisfaction **65.5%** Local Procurement of Indirect Materials **3.92 Million** Total Beneficiaries of Social Participation	Society

Outcome

Changes in social or environmental conditions resulting from TSMC's operations

- Economic growth
- Industry technology advancement
- Job creation
- Professional talent development
- Human rights exposure risks
- Health and safety risks

- Water, mineral, and fossil fuel reserves
- Greenhouse gas concentrations in the atmosphere
- Levels of heavy metals, organic compounds, and inorganic substances in air and water
- Biodiversity

Impact

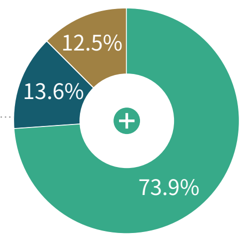
Positive or negative changes in stakeholder well-being

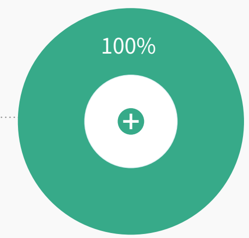
hysical and Mental Health	Provide a safe and healthy workplace to sustain workers' physical and mental well-being while guarding against potential health risks
Environment Quality	Optimize energy and resource efficiency, manage pollution risks, and restore natural environments to enhance ecosystem services and human well-being
Employment Quality	Enhance employee well-being through stable and fair compensation, career opportunities, and an equitable and inclusive work environment, including both material and non-material conditions
Income and Wealth	Support disposable cash flow and accumulated assets for individuals and households, helping to maintain consumption smoothing and enabling long-term investment
Knowledge and Skills	Provide training and learning opportunities to build workers' professional expertise, technical capabilities, and skills, such as emotional management, adaptability, and teamwork
Work-Life Balance	Shape employees' ability to balance family, leisure, and work through flexible working hours, commuting options, and work arrangements
Subjective Well-being	Influence individuals' overall perception of well-being through psychological state and life satisfaction
Social Connections	Promote interpersonal connections through tax contributions, community support, and volunteer service, advancing social well-being and environmental sustainability

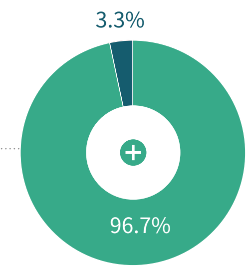
Valuation

Converting impacts into monetized values to reflect the positive and negative externalities of TSMC's operations on society and the environment

	Finance	Manufacturing	Intelligence
Impact	Generate investment returns and tax contributions through solid financial performance while creating income for employees and suppliers	Build supplier support and collaboration mechanisms that enhance quality and technical capabilities while creating long-term partnerships and market expansion opportunities for customers	Leverage knowledge-based intangible assets to drive industry upgrades and technological breakthroughs, creating differentiated value for customer products and services
	Positive Impact NT$ **2,321,476** Million	**Positive Impact** NT$ **679,684** Million	**Positive Impact** NT$ **254,840** Million
	• Operating Profit • Compensation & Benefits • Taxes	• Fixed Asset Depreciation	• Intangible Asset Amortization • New Technology R&D
Value Chain			
Stakeholders			







Society | Environment

Value Chain : Procurement | TSMC Operations | Customer Use

Stakeholders : Shareholders/Investors | Customers | Suppliers/Contractors | Society | Environment | Government | Internal Employees | External Employees

Evaluate the correlation between TSMC's impact and financial performance

Valuation

Impact Intensity

Impact

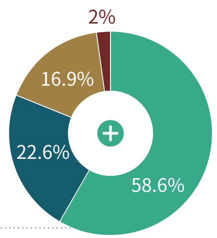
Human Resources

Create additional well-being through employment relationships, including competitiveness, productivity, innovation capacity, well-being, health, and safety

Positive Impact

NT$ 13,632 Million

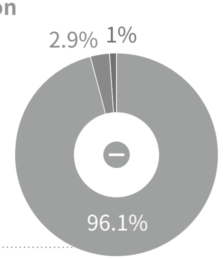
- Support for Life and Family
- Training
- Equal Opportunity
- Employee Health Management



Negative Impact

NT$ 1,942 Million

- Equal Opportunity
- Sexual Harassment
- Occupational Accidents



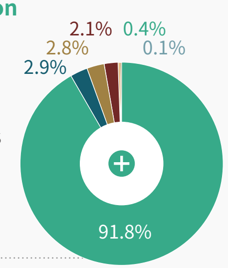
Environment

Respect fundamental environmental rights by maintaining the stability of natural resources, climate systems, and ecosystems to ensure a livable environment and biodiversity

Positive Impact

NT$ 736,742 Million

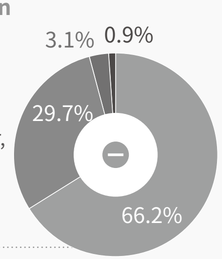
- Energy-Efficient Product Design
- Renewable Energy
- Energy-saving Measures
- Water-saving Measures
- Assisting Suppliers
- Reclaimed Water



Negative Impact

NT$ 181,471 Million

- GHG Emissions
- Supply Chain Environmental Footprint
- Air Pollution, Wastewater, and Waste Disposal
- Water Resource Consumption



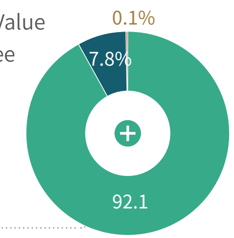
Society

Shape group relationships , well-being, human rights, and social equity to promote shared social prosperity

Positive Impact

NT$ 4,955,431 Million

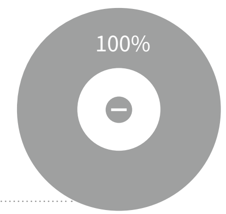
- Supply Chain Output Value
- Supply Chain Employee Compensation
- Social Participation



Negative Impact

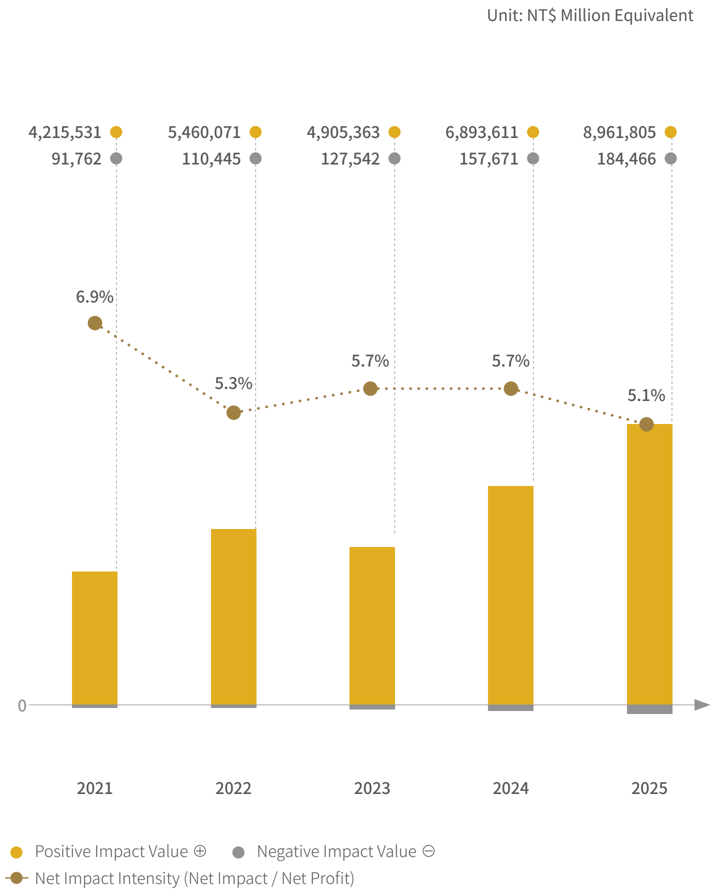
NT$ 1,053 Million

- Supply Chain Human Rights Risk



Value Chain

Stakeholders



Value Chain : Procurement TSMC Operations Customer Use

Stakeholders : Shareholders/Investors Customers Suppliers/Contractors Society Environment Government Internal Employees External Employees

Pioneer

Empowering Tech for Good

Empowering Innovation, Advancing Tech for Good

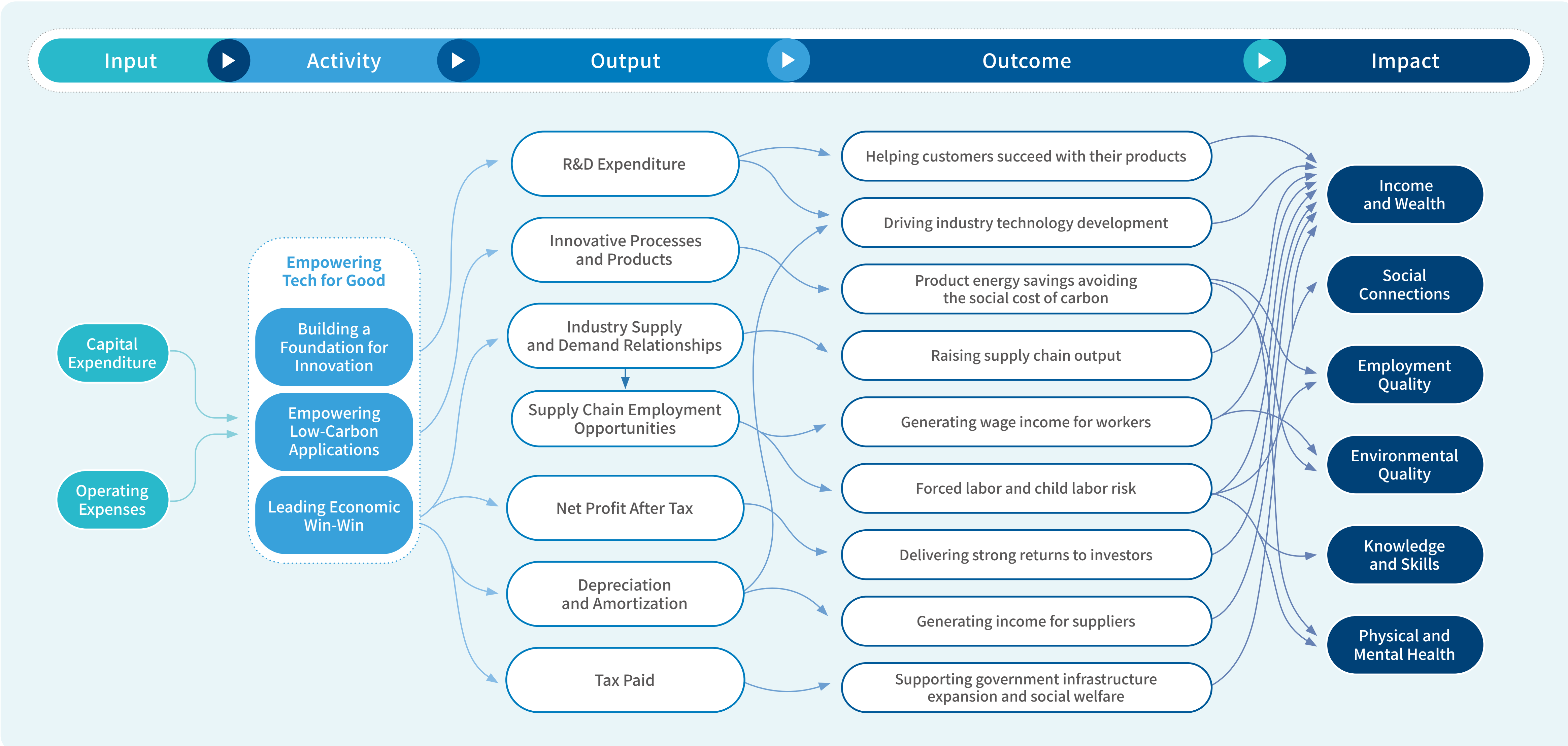
TSMC builds on a strong foundation of innovation, working to advance human well-being through technology and lead the global semiconductor and high-tech industries forward. Through continuous technological breakthroughs, the Company helps customers succeed and enables low-carbon applications in end products, turning every chip into a seed for energy savings and carbon reduction. At the same time, backed by strong business performance and tax contributions, TSMC works with supply chain partners to foster industrial prosperity, serving as a key engine of global economic growth.

Building a Foundation for Innovation

Empowering Low-Carbon Applications

Creating Economic Win-Win

Impact Pathway



Building a Foundation for Innovation

Innovation is the cornerstone of progress in technology and human life. With strong R&D capabilities and a solid asset base, TSMC addresses the challenges of global digital transformation by continuing to invest in research and development and capital expenditure to advance semiconductor science and applied technologies. The Company invests deeply in advanced process equipment and intellectual property, transforming scientific theory into industrial productivity and helping to address shared societal challenges such as healthcare and energy efficiency.

To measure the real impact of "Building a Foundation for Innovation", TSMC references Harvard Business School's Impact-Weighted Accounts methodology, treating R&D expenditure as gross value added (GVA) created for stakeholders. Through the long-term accumulation of intellectual capital, these investments become a key driver of industry upgrades and technological advancement.

Input / Output	Impact on Well-being	Valuation (NT$ Million Equivalent)
NT$ 246,427 million R&D Expenditure	**Stakeholder Well-being** Assumes that NT$1 of financial value is to the same as an equivalent level of purchasing power and well-being for stakeholders, without applying additional conversion factors	246,427 R&D Expenditure Customer product success; advancement of industrial technological development

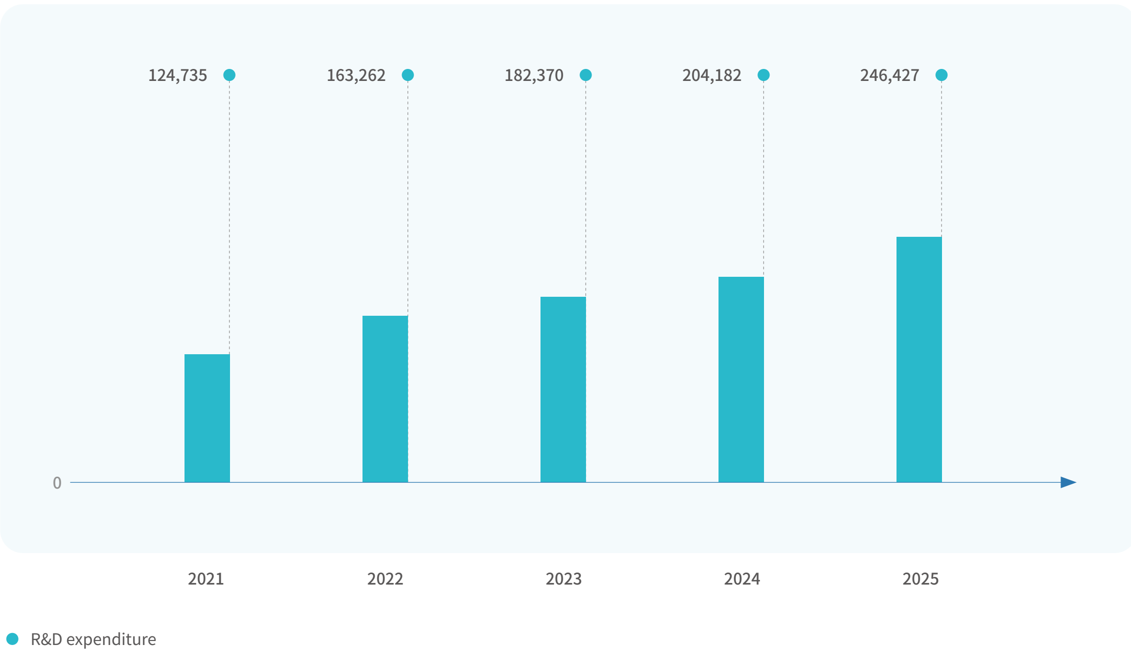
Global Sites
Taiwan Sites

Analysis Results

In 2025, TSMC's R&D expenditure reached NT$246.4 billion, accounting for 6.5% of revenue and increasing by 3.6 times over the past decade. This investment drives upgrades in technology and supports customer success with their products. TSMC is focused on innovation in advanced process and packaging technologies and continues to invest in next-generation process equipment to maintain its technological leadership. The Company also practices smart precision manufacturing to ensure consistent production standards across its global fabs, creating a manufacturing model that delivers high performance with lower environmental impact. At the same time, TSMC has built a robust intellectual property protection system, strengthening its patent and trade secret portfolio and transforming innovation into protected intellectual capital.

Gross Value Added (GVA) – R&D Expenditure

Unit: NT$ Million Equivalent



Management Actions

Innovation is not only a source of corporate competitiveness but also a driver of global digital transformation and positive progress in technology for good. TSMC continues to invest in R&D and expand its advanced process equipment, turning forward-looking technologies into mass production capability. By collaborating with global partners, TSMC enables high-performance computing, artificial intelligence, and low-carbon applications, supporting a better future for both technology and society.

Build Momentum for Internal Innovation

Innovation is a key driver of TSMC's growth. The Company drives technology forward and fosters a culture of innovation through diverse incentive mechanisms such as technical forums, proposal competitions, best practice presentations, and the ESG AWARD, encouraging employees to innovate in all areas and reinforcing its three core competitive strengths: technology leadership, manufacturing excellence, and customer trust.

Innovate through Cross-Sector Collaboration

TSMC partners with customers, suppliers, and stakeholders across government, industry, and academia in areas such as product development, talent development, and green innovation. Through its Open Innovation Platform, the Company has built a semiconductor ecosystem that enhances chip design innovation and efficiency. TSMC also strengthens industry–academia collaboration to cultivate semiconductor talent worldwide and drive continued industry growth.

Empowering Low-Carbon Applications

TSMC's process technology continues to advance, improving chip performance while lowering energy consumption in end products and driving low-carbon transformation worldwide. Working closely with customers, TSMC optimizes transistor architecture and power management, enabling next-generation processors to execute large-scale computations with greater energy efficiency. The Company also develops green technologies that support energy-saving applications across global digital infrastructure, electric vehicles, and smart cities, reducing the impact of digital growth on energy systems.

To measure the real impact of "Empower Low-Carbon Applications", TSMC analyzes the global energy-saving benefits enabled by semiconductor-based information and communication products and estimates its potential contribution to worldwide electricity savings. TSMC converts this contribution into CO_2e reductions and corresponding environmental benefits, driving technology development alongside environmental sustainability.

Input / Output	Impact on Well-being	Valuation (NT$ Million Equivalent)
305 Process Technologies **534** Customers **12,682** Product Innovations	**188** billion kWh Global electricity savings enabled by smart product applications **89.09** $MtCO_2e$ GHG emissions avoided, mitigating global warming	**676,063** ⊕ Environmental benefit from product energy savings

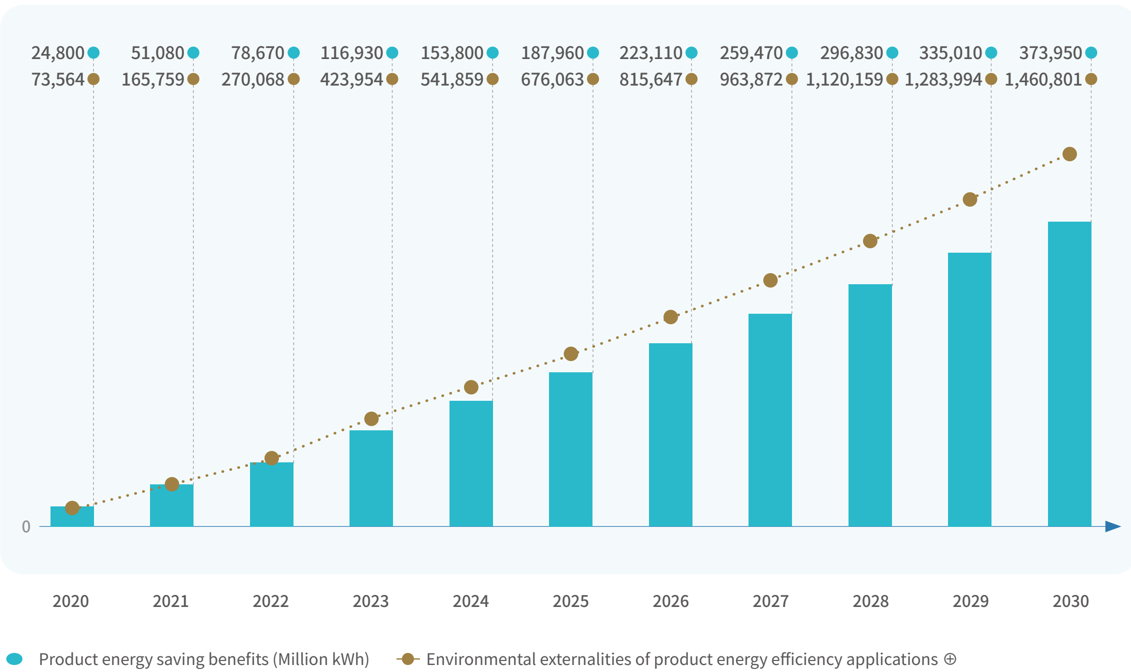
Global Sites   Taiwan Sites

Analysis Results

Building on its core semiconductor foundry business, TSMC helps households and industries save energy through smart product applications, contributing to global carbon reduction. In 2025, TSMC provided 305 process technologies, enabling 12,682 product innovations for 534 customers. These innovations helped save 188 billion kWh of electricity worldwide while cutting GHG emissions, generating an external environmental benefit equivalent to NT$676.1 billion. In addition, the Industrial Technology Research Institute's Industry, Science and Technology International Strategy Center modeled global electricity use, GDP, and electronic product volumes, estimating that by 2030, every kWh TSMC consumes in production will enable 6.87 kWh of electricity savings worldwide in households as well as other industries. The electricity savings enabled by TSMC globally are projected to grow from 25 billion kWh in 2020 to 374 billion kWh in 2030, generating an external environmental benefit of NT$1,460.8 billion.

Environmental Externalities of Empowering Low-Carbon Applications

Unit: NT$ Million Equivalent



Management Actions

In response to the rapid growth of AI applications, TSMC continues to introduce next-generation process technologies with higher chip density and lower power consumption, enhancing computing performance and energy efficiency. These technologies enable customer innovation and support the development of more efficient, energy-saving, and cost-effective electronic products, driving positive transformation in the global economy and human well-being.

Drive Low-Carbon Product Innovation

Guided by a product life cycle approach, TSMC collaborates with partners across the value chain to support customers in manufacturing energy-efficient, low-power end products. The Company also applies advanced technologies to enable six primary application areas: smart manufacturing, smart transportation, smart agriculture, smart buildings, smart energy, and smart services, creating green value for stakeholders.

Measure Product Carbon Handprint

Unlike a product carbon footprint, which focuses on emissions data, TSMC introduces the concept of a carbon handprint to measure the energy-saving benefits delivered by high-performance computing chips in end-use applications such as electric vehicles, AI data centers, and smart cities, compared with prior-generation technologies or market benchmarks. This approach assesses the positive carbon reduction impact created by the Company's products.

Creating Economic Win-Win

As a critical node in the global semiconductor industry, TSMC's business performance represents more than the financial results of a single company, it also supports the stability of the global semiconductor supply chain and regional economic prosperity. TSMC sustains profit growth through manufacturing excellence and technology leadership while strictly complying with global tax regulations and making tangible fiscal contributions to the regions where it operates. Beyond its own financial growth, the Company's procurement of raw materials and equipment indirectly increases output in related industries such as semiconductor equipment, chemical materials, and engineering services, creating jobs and strengthening partners' business capabilities and market competitiveness for mutual benefit. TSMC also conducts human rights due diligence to prevent risks of forced labor and child labor, building a safe and responsible semiconductor supply chain.

To measure the real impact of "Creating Economic Win-Win", TSMC refers to Harvard Business School's Impact-Weighted Accounts methodology to assess the enterprise value represented by net profit after tax, treating depreciation and amortization of tangible and intangible assets, as well as tax contributions, as value added created for stakeholders. For the supply chain, TSMC applies an Input-Output Model to estimate how procurement demand indirectly increases output, employment, and wage income across the global semiconductor supply chain, while assessing education compensation, health loss, and social reintegration costs arising from labor-related human rights risks.

Input / Output

NT$ **3,809.1** billion

Revenue

Revenue ▸ Depreciation & Amortization ▸ Tax Paid ▸ Net Profit After Tax

Impact on Well-being

Stakeholder Well-being

Assumes that NT$1 of financial value is equivalent to the same level of purchasing power and well-being for stakeholders, without applying additional conversion factors

Valuation (NT$ Million Equivalent)

1,715,397 Net Profit After Tax

Returns to investors ; contribution to economic growth

688,096 Depreciation and Amortization

Industrial and technological development through tangible and intangible assets

291,301 Tax Paid

Government infrastructure expansion and social welfare support

Global Sites   Taiwan Sites

Input / Output	Impact on Well-being	Valuation (NT$ Million Equivalent)
1,451 Tier 1 supplier partners	**24** regions and **22** industries Drive supply and demand across upstream raw material and equipment industries and downstream IC packaging, testing, transportation, and warehousing services	**4,565,574** ⊕ Supply chain output generated
	650,000 Jobs created for supply chain workers	**387,232** ⊕ Wage income created for supply chain workers
24 Countries/regions where suppliers are located	**1.74‰** Potential forced labor risk per thousand supply chain workers	**1,053** ⊖ Social cost from potential loss of freedom and physical/mental health among supply chain workers due to forced labor
	0.0005‰ Potential child labor risk per thousand supply chain workers	**0.27** ⊖ Social cost from potential future income loss due to child labor preventing access to quality education

Global Sites　Taiwan Sites

Analysis Results

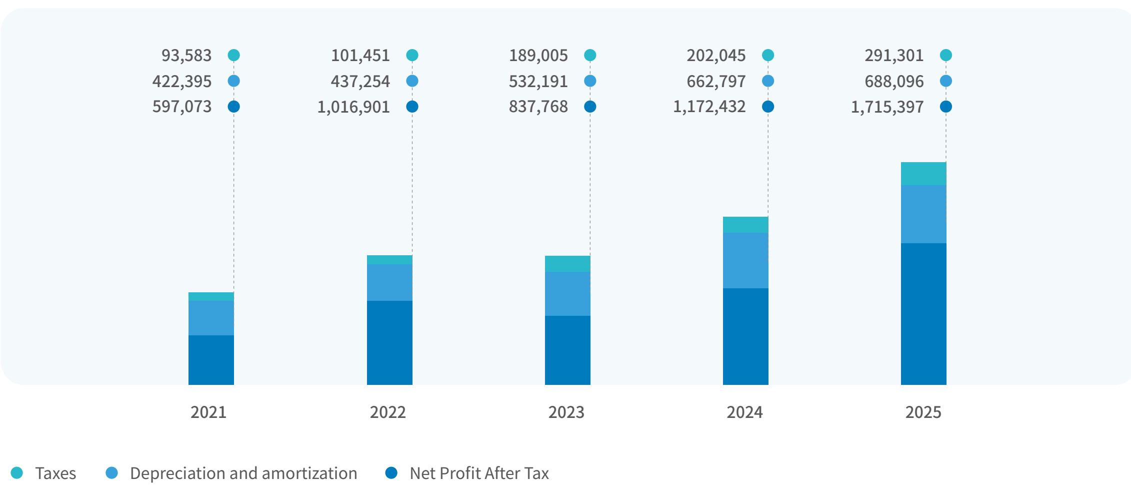
In 2025, TSMC generated NT$3,809.1 billion in revenue, recording NT$688.1 billion in depreciation and amortization and paying NT$291.3 billion in taxes, driving industry technology development and supporting government infrastructure expansion and social welfare (positive). The Company also created NT$1,715.4 billion in net profit after tax, delivering strong returns to investors, improving quality of life, and contributing to economic growth (positive).

In 2025, TSMC indirectly drove NT$4,565.6 billion in supply chain output (positive), 650,000 jobs, and NT$387.2 billion in wage income (positive), with machinery and equipment (29%), construction (10.4%), and chemical products (8.3%) as the leading contributors. As demand for AI and high-performance computing grows, the semiconductor industry continues to expand, and procurement-driven supply chain output and employment have trended upward year over year.

Given the complexity of its global supply system, TSMC proactively conducts human rights risk analysis and monitors potential human rights risks and their possible negative external impacts, including forced labor and child labor risks throughout its supply chain. Based on its 2025 procurement value, regional distribution, and country-level human rights risk data, the estimated forced labor risk rate among supply chain workers is 1.74 per thousand, and the child labor risk rate is 0.0005 per thousand. The combined implied social cost — including future income loss and social reintegration costs — is estimated at NT$1,052.7 million (negative), up from the prior year due to higher procurement value. TSMC will continue to reduce the likelihood of these risks through human rights due diligence and supplier guidance programs, strengthening human rights protections in its supply chain.

Gross Value Added (GVA) – Financial Performance

Unit: NT$ Million Equivalent

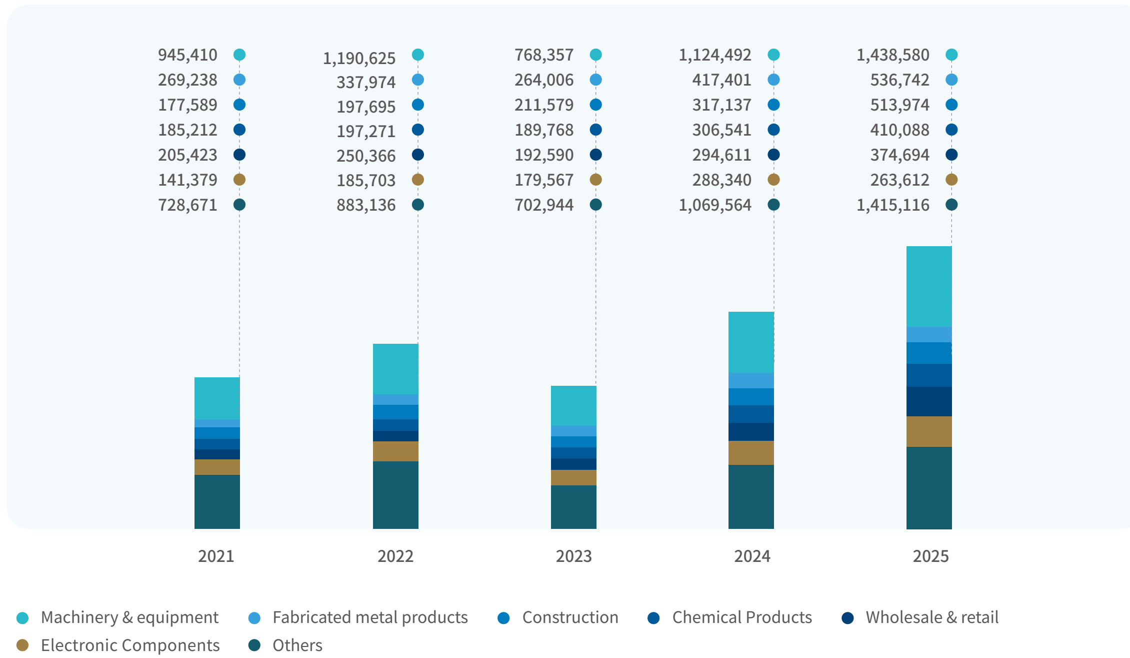


Supply Chain Wages Distribution (By Region)

Unit: NT$ Million Equivalent

Supply Chain Output and Wage Distribution (by Industry)

Unit: NT$ Million Equivalent



Management Actions

TSMC channels its corporate growth into a force that drives shared prosperity for society and industry, delivering long-term returns to shareholders and investors through sound financial governance and tax practices. With technology leadership and strong demand for AI applications, TSMC advances both global and local supply chain development while safeguarding the dignity and development opportunities of every worker, creating mutual benefit across the Company, value chain, and society.

Create Long-Term Financial Value

TSMC leverages its technology leadership and manufacturing excellence to meet strong customer demand in fields such as AI and high-performance computing, generating long-term economic value. With sound financial management and prudent strategy, TSMC turns business performance into momentum for sustainable development, driving stable growth across the global semiconductor industry.

Practice Transparent Tax Policy

Guided by its core value of integrity, TSMC complies with tax regulations across all global operations, aiming to be a trusted corporate citizen. Through transparent tax disclosure, TSMC channels earnings into public resources that support government infrastructure expansion and strengthen education and social welfare systems, contributing to shared economic prosperity.

Expand Local Procurement

TSMC actively promotes local procurement to lower supply disruption risk and ensure supply chain stability. By improving the technology and quality of local suppliers, TSMC builds localized material supply capacity across its global operating sites. The Company's procurement activities also create output and employment in local communities, extending the benefits of technological innovation beyond the industry and translating them into purchasing power for society that supports stable economic growth.

Protect Supply Chain Human Rights

TSMC follows its Human Rights Policy and requires Tier 1 suppliers to comply with the Supplier Code of Conduct, prohibiting forced labor, child labor, and other violations, while encouraging upstream suppliers to adopt the same standards. The Company also conducts human rights due diligence to proactively identify and manage potential risks. In 2025, TSMC launched its Supplier Human Rights Management Tracking Platform to implement tiered risk management, ensuring alignment with international standards.

Planet

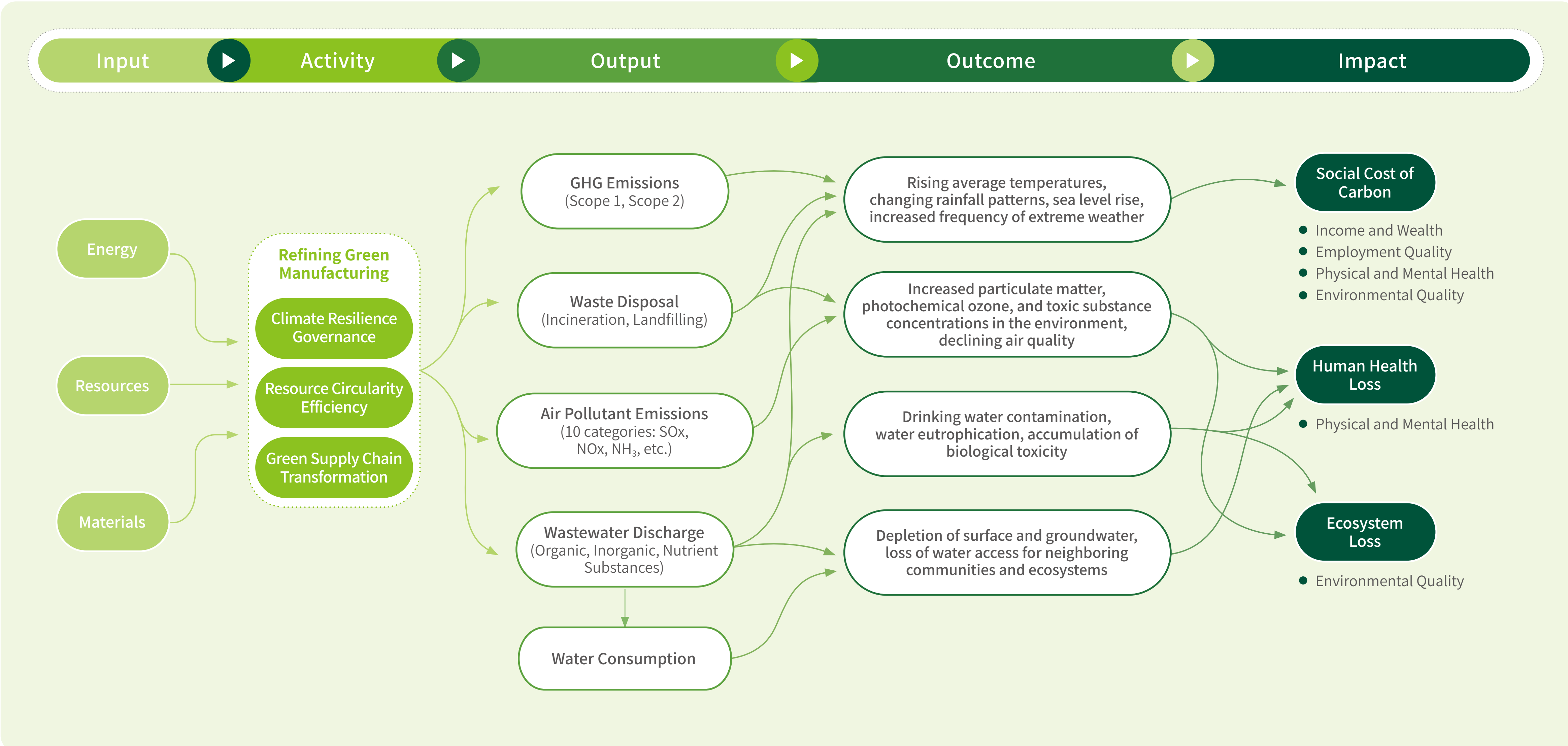
Refining Green Manufacturing

TSMC Refines Excellence and Lives in Harmony with Nature

In line with its relentless pursuit of excellence, TSMC seeks to drive social progress through technological innovation while setting the standard for green manufacturing. Building on its climate resilience governance, the Company turns its environmental commitments into concrete action by improving resource circularity and giving waste and water resources new life. TSMC also works closely with supply chain partners to drive the green transition, applying its technological expertise to environmental stewardship and extending its impact across the value chain to advance a sustainable future where business and nature thrive together.

- Climate Resilience Governance
- Efficiency of Resource Circularity
- Green Supply Chain Transformation

Impact Pathway



Climate Resilience Governance

According to the World Economic Forum's Global Risks Report 2026, extreme weather ranks as the leading long-term global risk, making climate resilience essential to sustainable business operations. Greenhouse gas emissions from operations are a primary driver of rising global temperatures and more frequent extreme weather events, including droughts, floods, and severe storms. These impacts threaten ecosystems and human health while disrupting agricultural production and causing property damage. To address these challenges, TSMC drives green transition by setting carbon reduction targets, adopting energy-saving measures, and expanding renewable energy use to lower greenhouse gas emissions and build environmental resilience.

To measure the impact of its climate resilience governance, TSMC applies the Environmental Profit and Loss (EP&L) methodology, using the social cost of carbon as the valuation factor. This approach converts the long-term physical and economic damage associated with each unit of greenhouse gas emissions into monetary values, providing a quantitative assessment of the Company's climate governance performance and helping align business decisions with global net-zero goals.

Input / Output

2.2 $MtCO_2e$
Direct GHG emissions from operations (Scope 1)

13.63 $MtCO_2e$
Indirect GHG emissions from energy use (Scope 2)

56 billion kWh
Cumulative electricity savings from facility systems and production tools

57.8 billion kWh
Renewable energy purchased and self-generated

Impact on Well-being

15.83 $MtCO_2e$
GHG emissions contributing to global warming

547 $MtCO_2e$
Avoided GHG emissions, mitigating global warming

Valuation (NT$ Million Equivalent)

120,095 ⊖
External environmental costs from GHG emissions

41,681 ⊕
External environmental benefits from energy savings and renewable energy

Global Sites

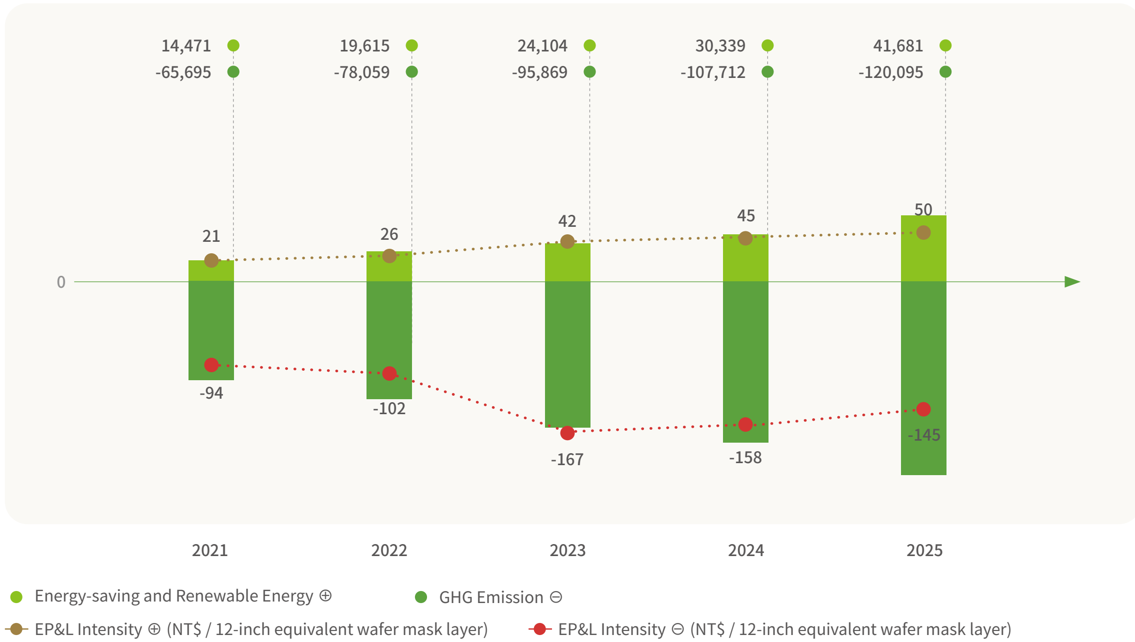
Taiwan Sites

Analysis Results

In 2025, TSMC's global operations generated external environmental costs of approximately NT$120,095 million (negative impact) from greenhouse gas emissions. As advanced process technologies evolve, global capacity expands, and new fabs enter volume production, the Company's energy and resource demand continues to rise, driving higher external environmental costs from GHG emissions year over year. To mitigate environmental externalities, TSMC continues to expand renewable energy use and has signed long-term renewable energy contracts totaling 7.3 GW, increasing its global renewable energy usage ratio to 20.1%, up 6% from the previous year. The Company continues to improve the energy efficiency of its manufacturing processes, delivering annual energy savings of around 900 million kWh. As capacity grows, TSMC also enhances energy productivity per unit of output, generating NT$41,681 million in external environmental benefits (positive impact). From an impact intensity perspective, the external cost per unit of production (12-inch wafer equivalent mask layers) associated with GHG emissions has declined year over year since 2023.

Environmental Externalities from Operational Energy Use and GHG Emissions

Unit: NT$ Million Equivalent



Management Actions

Using 2025 as its baseline year, TSMC committed to the Science Based Targets initiative (SBTi) and developed a net-zero pathway and strategic roadmap. The Company strengthens resilience management to maintain zero production downtime from climate-related disruptions. TSMC promotes low-carbon manufacturing in its processes, improves energy efficiency, and continues to adopt renewable energy. The Company also regularly reviews and adjusts its energy-saving and carbon reduction targets, optimizing management to stay on track toward its net-zero milestone in 2050.

Strengthen Climate Resilience

TSMC has established response and prevention mechanisms for climate-related disasters, conducting in-depth analysis and risk mitigation planning for extreme weather scenarios such as water shortages, strong winds, and flooding. As capacity expands, TSMC continues to build organizational resilience and manage climate risks, ensuring production is not disrupted by climate events and delivering on its commitment to stable operations.

Drive Low-carbon Manufacturing

TSMC executes industry-leading greenhouse gas reduction initiatives, installing and replacing local scrubbers to cut fluorinated gas and nitrous oxide emissions from its processes, while also piloting carbon capture technologies. The Company works with suppliers to set ambitious medium- to long-term Scope 3 targets, advancing its net-zero vision.

Increase Energy Efficiency

TSMC integrates energy-saving principles into tool development and facility operations, and has launched 2,141 energy-saving measures, including EUV dynamic energy saving and standby mode for local scrubbers. Five major energy conservation teams work to reduce electricity consumption per unit of production, generating NT$3.85 billion in electricity cost savings in 2025 and delivering both environmental and operational benefits.

Use Renewable Energy

TSMC expands its share of renewable energy by adding PV systems and, in 2025, becoming Taiwan's first private company to adopt offshore wind power. The Company also participates in the Green Power Market Flexible Allocation Pilot Program to diversify renewable energy sourcing, steadily progressing toward its goal of 100% renewable energy use company-wide by 2040.

Resource Circularity Efficiency

Recognizing the high dependency of semiconductor processes on water resources, TSMC continues to improve water recycling and usage efficiency at its fabs to alleviate water pressure on neighboring communities. At the same time, the Company uses resource recycling technologies and comprehensive management mechanisms to treat waste and air emissions from manufacturing processes, preventing harmful substances from impacting ecosystems and human health. Facing the challenges of limited resources, TSMC is dedicated to transforming from a resource user into a resource value creator, establishing a symbiotic balance between technological growth and natural ecology.

To measure the tangible impact of resource circulation, TSMC adopted the Environmental Profit & Loss (EP&L) perspective to assess the effects of water consumption, wastewater, air pollution, and waste disposal on the external environment. By considering the potential damage of heavy metals, organic matter, and inorganic matter to human health and ecosystems while incorporating the Social Cost of Carbon (SCC) derived from greenhouse gases generated during disposal, the Company estimates these impacts as specific monetized values. Through this quantification mechanism, TSMC reviews its circular economy strategies to ensure that resource management delivers a positive contribution to society.

Input / Output	Impact on Well-being	Valuation (NT$ Million Equivalent)
319 M m^3 Water recycled and reused; **22.7** M m^3 Reclaimed water use (Global Sites)	**27.65** DALYs Health loss risk avoided from water shortages in neighboring communities; **2.19~3.06** Biodiversity pressure index avoided in neighboring communities	**16,151** ⊕ External environmental benefits from water recycling and reclaimed water use
127 M m^3 Tap water use (Global Sites)	**10** DALYs Health loss risk from water shortages in neighboring communities; **2.19~3.06** Biodiversity pressure index in neighboring communities	**5,709** ⊖ External environmental costs from water consumption

Global Sites | Taiwan Sites

Input/ Output	Impact on Well-being	Impact Valuation (NT$ Million Equivalent)
98 M m^3 Process wastewater discharge	**69,000** tCO_2e GHG emissions from wastewater treatment contributing to global warming **16.5** DALYs Health loss risk from diseases caused by heavy metals in wastewater **14.2** PDF (Potentially Disappeared Fraction of species) Biodiversity loss risk from heavy metals in wastewater	**573** ⊖ External environmental costs from wastewater discharge
831 metric tons Air pollutant emissions	**45.9** DALYs Health risk from diseases caused by particulate matter, ozone, and toxic substances **5.6** PDF Biodiversity risk from particulate matter, ozone, and toxic substances	**190** ⊖ External environmental costs from air pollutant emissions
60,088 metric tons Waste incinerated **3,497** metric tons Waste landfilled	**144,758** tCO_2e GHG emissions from waste incineration and landfilling contributing to global warming **72,965** kg Air pollutant emissions from waste incineration ⊕ **5.82 DALYs** Health loss risk from diseases caused by particulate matter, ozone, and toxic substances ⊕ **7.1 PDF** Biodiversity loss risk from particulate matter, ozone, and toxic substances	**947** ⊖ External environmental costs from waste incineration and landfilling

Global Sites   Taiwan Sites

Analysis Results

In 2025, TSMC implemented water-saving measures and water recycling across its global fabs, working toward its Water Positive goal by expanding the use of reclaimed water and desalinated seawater, generating external environmental benefits of NT$16,150.58 million (positive impact). External environmental costs from water consumption and pollutant discharge totaled approximately NT$7,603.89 million (negative impact), increasing from the prior year mainly due to higher ultra-pure water purity requirements for advanced processes, which expanded chemical usage and increased waste treatment complexity. TSMC's capacity expansion also drove higher water demand as well as greater volumes of air pollutants and waste requiring treatment. From an impact intensity perspective, the external cost per unit of production (12-inch wafer equivalent mask layers) associated with operational water consumption and pollutant discharge has declined year over year since 2023.

Environmental Externalities from Operational Water Consumption and Air Pollutant Emissions

Unit: NT$ Million Equivalent

Management Actions

Through its integrated water supply platform, TSMC takes four key water-saving measures: Decrease Water Discharge Loss from the System, Reduce Facility System Water Consumption, Increase Facility Wastewater Recycling, and Improve System Water Production Rate. In 2025, the Company successfully introduced reclaimed water into advanced processes, decreasing reliance on tap water. TSMC drives its Global Circular Resource Expansion Project to raise waste recycling rates worldwide and promotes the reuse of regenerated electronic-grade chemicals. For air pollution control, the Company adopts best available technologies and strengthens monitoring of air pollution control equipment to prevent abnormal incidents.

Sustain Water Resource Management

TSMC carries out daily water conservation practices and water shortage adaptation measures while developing diversified water sources. In 2025, the reclaimed water substitution rate reached 18%, and TSMC's integrated recovery system recycled over 300 million cubic meters of water annually. The Company also targets 100% Water Positive status globally by 2040, while reducing ecological loss through environmental education and water resource restoration.

Innovate Water Pollution Prevention Technology

TSMC applies segregated wastewater treatment and advanced prevention technologies, achieving a 61.9% reduction in its integrated water pollution index in 2025 and maintaining discharge water quality above regulatory standards. As reclaimed water is introduced into advanced processes, the Company adjusts system operating parameters to lower energy and resource consumption and reduce chemical use, reinforcing environmentally responsible operations.

Apply Best Available Technologies and Enhance Monitoring

TSMC adopts advanced pollution control equipment, achieving a volatile organic compound (VOC) reduction rate of 98.9% in 2025, and installs low-NOx burners in new fabs to cut pollutant emissions. The Company also deploys automated monitoring systems with data comparison and verification mechanisms to ensure stable equipment operation and emission quality, protecting the health of neighboring communities through clean manufacturing processes.

Manage Sustainable Resources

TSMC achieved a global waste recycling rate of 98% in 2025, with Taiwan fabs maintaining a landfill rate below 1% for 16 consecutive years. The Company is actively building a green circular system and promotes on-site recycling of chemicals such as isopropyl alcohol (IPA). At the same time, TSMC's Waste Treatment Contractor Sustainability Enhancement Project carries out audits and technical guidance, fulfilling its responsibility for source management.

Green Supply Chain Transformation

Corporate procurement drives global economic output and employment, but it also creates complex, far-reaching indirect environmental impacts. From raw material extraction and processing to manufacturing and logistics, each stage of the supply chain generates greenhouse gas emissions, air pollution, and resource consumption that affect ecosystem stability and are closely linked to global climate risk. TSMC extends its commitment to responsible operations into supply chain management, empowering partners through structured guidance programs to reduce electricity and water use and minimize waste, lowering their environmental footprint.

To measure supply chain environmental impacts, TSMC applies Environmentally Extended Input-Output (EEIO) Analysis to trace the environmental footprint and pollution load generated by procurement activities. The Company further assesses potential risks to socioeconomic systems, human health, and ecosystems, and converts these impacts into equivalent monetary terms. By transparently disclosing environmental profit and loss across its value chain, TSMC provides a basis for decision-making in its green supply chain management strategy.

Input/ Output

1,451
Tier 1 supplier partners

24
Countries/regions where suppliers are located

338 M kWh electricity saved
Results of supplier energy-saving guidance (99 suppliers)

17.7 M m^3 water saved
Results of supplier water-saving guidance (99 suppliers)

130,000 metric tons waste reduced
Results of supplier waste reduction guidance (13 suppliers)

Impact on Well-being

521 $MtCO_2e$
Supply chain GHG emissions contributing to global warming potential

25,539 metric tons
Air pollutants emitted from supply chain

⊕ **3,508 DALYs**
Health loss risk from supply chain air pollution

⊕ **6.38 PDF**
Biodiversity loss risk from supply chain air pollution

260,000 tCO_2e
GHG emissions avoided from reduced electricity use and waste incineration

10.2 DALYs
Health loss risk avoided from reduced water scarcity and air pollution

2.19~3.06
Biodiversity pressure index avoided in neighboring communities

6.9 PDF
Biodiversity loss risk avoided from reduced air pollution

Impact Valuation (NT$ Million Equivalent)

53,957 ⊖
Environmental external cost from procurement-related supply chain impacts

2,848 ⊕
External environmental benefits from supplier guidance on waste reduction, water conservation, and energy savings

Global Sites | Taiwan Sites

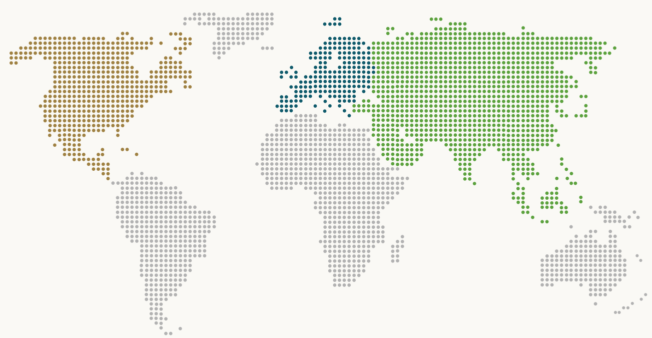
Analysis Results

In 2025, TSMC conducted an environmental hotspot analysis across the industries of its 1,451 Tier 1 suppliers, finding that procurement demand indirectly generated 5.21 million metric tons of GHG emissions and 25,539 metric tons of air pollutant emissions, equivalent to external environmental costs of approximately NT$53,957.34 million (negative impact). By industry, chemical products (51.3%) and machinery and equipment (22.5%) were the most significant sources of externalities. By impact category, the social cost of carbon from supply chain GHG emissions (73.3%) and health damage from particulate pollutants (17.5%) were two key drivers. As capacity expands, external environmental costs from supply chain procurement activities continue to rise. TSMC will continue to enhance its low-carbon supply chain management while working with suppliers to advance green innovation.

To mitigate environmental impacts across its supply chain, TSMC guides suppliers in setting energy conservation and carbon reduction targets and supports them through guidance programs to adopt high-efficiency equipment and optimize processes. In 2025, supplier partners achieved an additional 338 million kWh in electricity savings, and 93% of high-electricity-consuming suppliers obtained ISO 14064 certification. Regarding water resources, technology sharing helped suppliers save 17.7 million cubic meters of water. TSMC also promotes circular economy practices, raising suppliers' average waste recycling rate to 81%. In 2025, these combined efforts in energy savings, water conservation, and waste reduction generated external environmental benefits of NT$2,848 million (positive impact), helping mitigate climate change and resource depletion impacts.

Supply Chain Environmental Hotspot Distribution (by Region)

Unit: NT$ thousand Equivalent



Differentiating impact levels based on the proportion of environmental externalities

Asia	41,643,458	77.18%
Europe	3,011,540	5.58%
America	9,302,339	17.24%

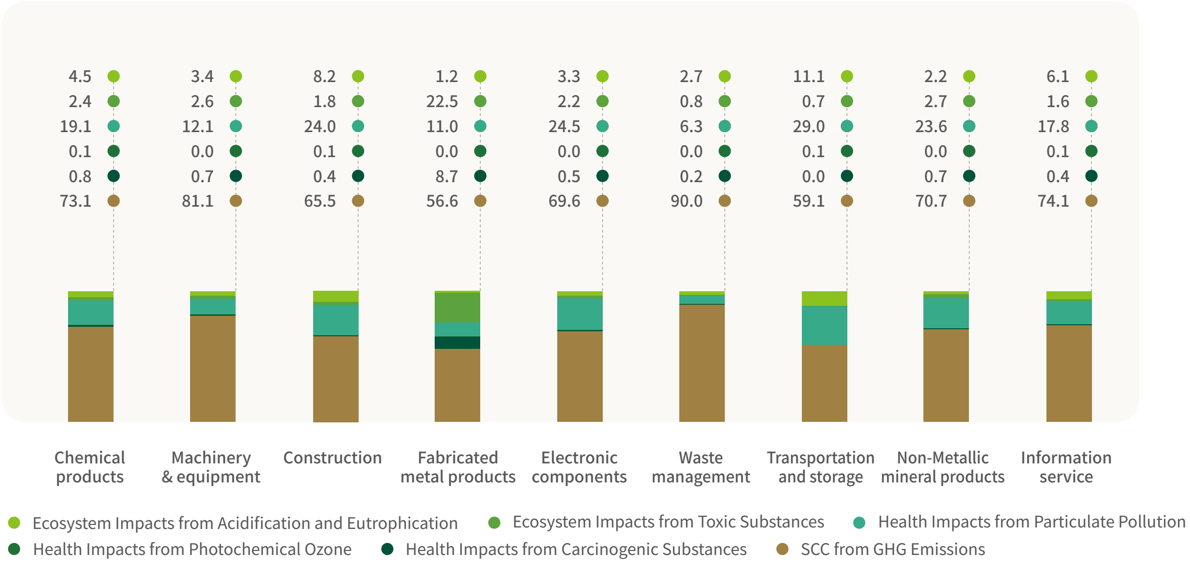
Supply Chain Environmental Hotspot Distribution (by Industry)

Unit: NT$ Million Equivalent

Note: Ecosystem loss assessment has been included since 2024. In addition, following an update to the health impact calculation methodology, analysis results from 2021 to 2024 have been retroactively updated.

Supply Chain Environmental Hotspot Distribution (by Impact Factor)

Unit: %



External Environmental Benefits of Supplier Guidance

Unit: NT$ thousand Equivalent

Management Actions

TSMC supports responsible procurement, collaborating with supply chain partners on carbon emissions management, water resources, and circular economy. Through guidance programs and incentive mechanisms, TSMC works with suppliers to accelerate decarbonization, address climate change, and strengthen green innovation and climate resilience, building a low-carbon semiconductor supply chain and advancing toward net-zero.

Drive Supply Chain Green Transformation

TSMC helps suppliers reduce carbon emissions through four key approaches: Tracking, Support, Motivation, and Creativity. The Company has signed greenhouse gas reduction agreements with more than 50 critical suppliers, covering approximately 90% of raw material carbon emissions, and set targets for carbon reduction and renewable energy use. TSMC also provides guidance resources and decarbonization subsidies to improve suppliers' energy and resource efficiency and support green innovation.

Strengthen Local Supply Chain

To strengthen supply chain resilience and reduce Scope 3 emissions from logistics, TSMC develops diverse material sources and continues increasing the proportion of local procurement at each operating site. This approach stabilizes the supply system, enables low-carbon logistics, and supports local economic growth, building a value chain with sustainable competitiveness.

Provide Customized Guidance

To promote sustainable resource use and environmental protection, TSMC guides suppliers to improve carbon reduction, energy savings, water conservation, and waste reduction. The Company supports the adoption of high-efficiency equipment and process optimization to enhance energy efficiency, while sharing technologies and providing project-based guidance to help high water-use suppliers increase water savings and recycling efficiency. TSMC also promotes circular economy practices among suppliers, bolstering energy and resource efficiency and building green productivity.

Prosperity

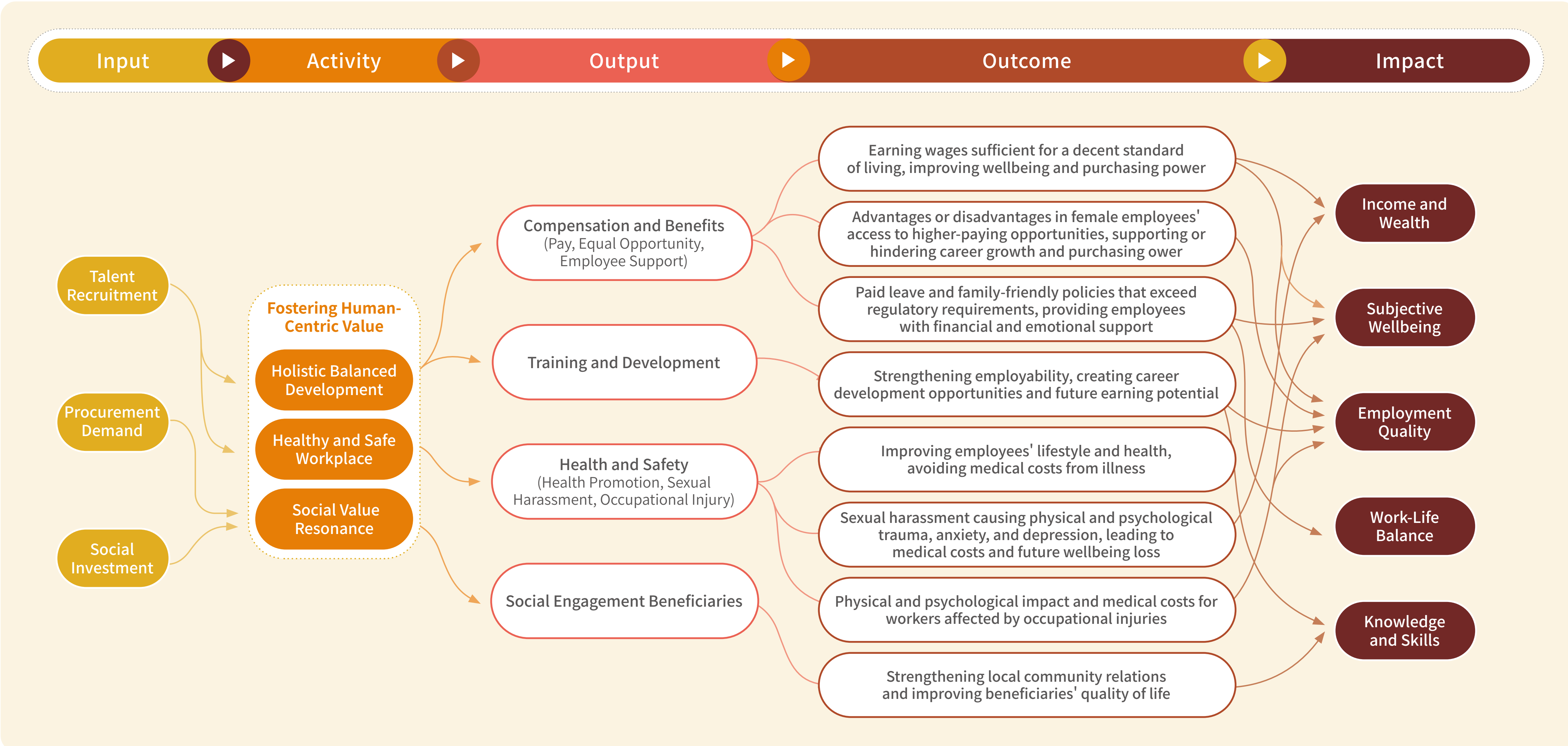
Fostering Human-Centric Value

Rooted in Semiconductor Excellence, Growing Together with Every Partner

TSMC conducts its global operations according to its core values of Integrity, Commitment, Innovation, and Customer Trust, while advancing the holistic development of its talent. The Company provides competitive compensation and family-friendly policies that safeguard employee and family wellbeing, and builds a safe and healthy workplace where every employee can perform at their best while enjoying peace of mind. TSMC also deepens social engagement by integrating cross-sector resources and extending its impact from the Company outward, working closely with stakeholders to build a resilient future.

- Holistic Balanced Development
- Healthy and Safe Workplace
- Social Value Resonance

Impact Pathway



Holistic Balanced Development

Employees are one of TSMC' s most valuable assets. TSMC builds an inclusive workplace that supports balanced employee growth, provides competitive compensation, and expands support for employees'personal and family needs, enabling them to pursue strong performance while maintaining quality of life and meeting family responsibilities. The Company also provides diverse training resources to elevate employees' professional capabilities and works to eradicate unconscious bias. This ensures equal pathways to career advancement and compensation regardless of gender, to achieve workplace diversity. To measure the tangible impact of its talent governance, TSMC applies the Harvard Business School' s Impact-Weighted Accounts methodology to analyze gaps between compensation and living wages, as well as gender-based pay structures for job roles. This analysis evaluates the potential value of equal opportunity and eliminating occupational segregation, and translates benefits that exceed regulatory requirements into economic value that enhances employee wellbeing and purchasing power. For talent development, TSMC applies the Value Balancing Alliance (VBA) model, combining training hours, salary adjustment rates, and career progression to estimate average salary growth and social contribution driven by skill development over employees'careers.

Input / Output	Impact on Well-being	Valuation (NT$ Million Equivalent)
90,557 TSMC's Global Workforce	**100 %** Employee compensation above local living wages, contributing to wellbeing and purchasing power	**314,779** ⊕ Compensation that ensures quality of life
Women's Access to High-Paying Positions -3.3% Managers; -8.9% Professionals; +0.7% Assistants; +16.4% Technicians	Women employees enjoy favorable opportunities for obtaining high-paying positions, boosting career development and purchasing power	**3,075** ⊕ Earning potential for female employees due to advantageous opportunities
	Occupational segregation puts female employees at a disadvantage in accessing high-paying positions, impeding their career development and purchasing power	**1,867** ⊖ Potential salary compensation costs resulting from opportunity gaps for female employees
90.4 hours Average Annual Learning Hours per Employee	**9 %** Percentage of future salary growth attributable to skills developed through training	**2,297** ⊕ Future incomes for employees and societal human capital generated by training
Support for Life and Family Paid Leave Exceeding Statutory Requirements, Childbirth Subsidies, TSMC Childcare Services, Newborn Gift Set	Promoting work-family balance for employees, enhancing job satisfaction, employee engagement, and quality of life	**7,984** ⊕ Economic benefit generated by employee supporting plan

Global Sites   Taiwan Sites

Analysis Results

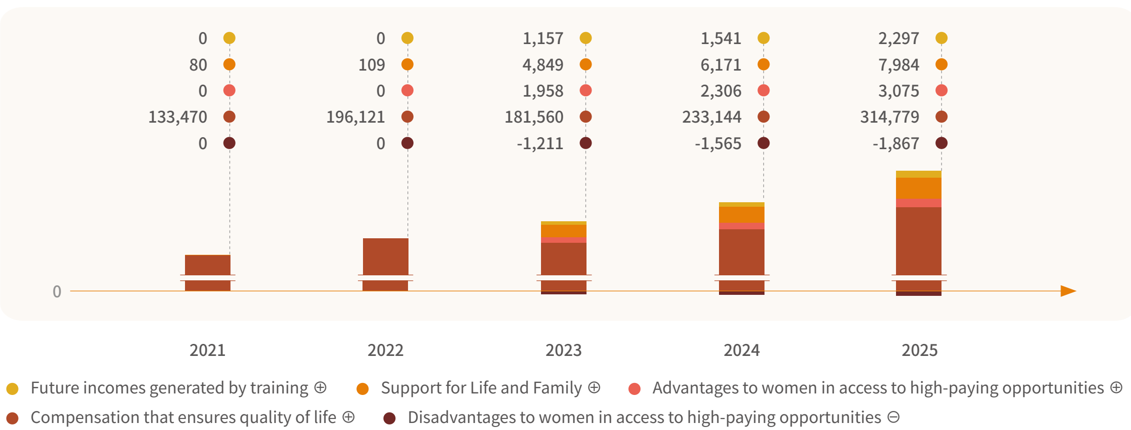
TSMC's total compensation includes base salary, allowances, cash bonuses, and incentives. By offering competitive compensation that exceeds living wage standards, TSMC helps employees balance work and personal life while enhancing motivation and engagement. In 2025, TSMC recruited 9,225 new employees worldwide and created 6,712 quality jobs, bringing its global workforce to 90,557. Total employee compensation reached NT$314.8 billion (positive impact), contributing to employee wellbeing and overall purchasing power.

Due to the nature of the semiconductor industry and broader social and cultural factors, men account for 67% of TSMC's workforce. Among job categories, men represent approximately 80% of managers, professionals, and assistants, while women make up the majority of technicians. In 2025, TSMC analyzed the impact of gender on compensation and career development across job categories at its Taiwan operations. Among technicians and assistants, women held advantages of 16.4% and 0.7%, respectively, in access to higher-paying positions compared with men, generating NT$3075.47 million in potential salary growth (positive impact). Among managers and professionals, differences in gender representation resulted in opportunity gaps of 3.3% and 8.9%, respectively, for women, leading to an estimated NT$1867.1 million in potential compensation costs (negative impact).

To support employee career development, TSMC provided 8.18 million training hours across its global operations in 2025, developing talent and creating shared value. These efforts are expected to generate NT$2,373.27 million in future salary growth for employees navigating career transitions (positive impact), while unlocking individual potential, expanding human capital, and adding long-term momentum into economic and social development. TSMC also extends its support to employees' families through leave and benefit programs that exceed regulatory requirements. In 2025, these programs delivered NT$7,984.48 million in economic support (positive impact).

The social externalities of Holistic Balanced Development

Unit: NT$ Million Equivalent



Note: Starting from 2023, the social externalities arising from equal opportunities and training will be incorporated into the assessment.

Management Actions

TSMC establishes compensation and benefits that exceed regulatory requirements to support employees' family needs, serving as a solid foundation for family care. The Company also helps employees identify and address unconscious bias in the workplace and builds an inclusive experience that supports the career development of women employees. Furthermore, TSMC designs training and development programs tailored to different job levels through a variety of learning resources and channels, and offers courses on topics such as regulatory compliance, technical skills, management, and personal effectiveness to help employees deepen their professional expertise, improve their performance, and enhance their employability.

Enhancing Compensation Competitiveness

TSMC offers competitive compensation. Beyond base salary, the Company has established an employee incentive program that shares the Company's operating results through cash bonuses and rewards, ensuring that employee compensation exceeds local living wage standards. This helps employees maintain a decent standard of living, enhances their wellbeing and financial security, and builds the human capital that underpins the Company's long-term competitiveness.

Building an Inclusive Workplace Culture

TSMC is committed to creating an inclusive environment regardless of gender and background, and proactively identifies and addresses unconscious bias in the workplace. For women in technology roles, TSMC provides support programs at every stage, from recruitment and onboarding to engagement and career development—to narrow opportunity gaps and ensure equal pathways for career advancement. This enables diverse talent to contribute innovation and drive continued progress in semiconductor technology.

Unlocking Potential and Empowering Employees

Guided by its People Vision, TSMC has built a comprehensive learning system based on the TSMC Talent Development Model. Through two key strategies—Equip Employees with Future Capabilities and Unleash Employees' Potential and Innovation—TSMC helps employees deepen expertise and build career resilience. These actions not only boost current productivity, but also empower employees to achieve sustained salary growth and build skill capital throughout their future careers, expanding the talent base in society.

Balancing Family and Life

TSMC extends support to employees' families through the TSMC ChildCare Benefit Program 3.0. In addition to leave benefits that exceed regulatory requirements, including fertility treatment leave, egg freezing leave, adoption leave, and childcare leave, TSMC operates four kindergartens that provide high-quality early childhood care. Through financial support and flexible leave arrangements, the Company helps employees balance family responsibilities while pursuing career success, creating a positive cycle between work and life.

Healthy and Safe Workplace

A healthy and safe workplace is central to TSMC's operational stability and reflects the Company's commitment to every employee. Workplace safety management covers inherent safety in facility design and employee physical and mental well-being, with a focus on preventing occupational injuries, occupational diseases, and workplace misconduct such as sexual harassment. Through a proactive health management system and rigorous grievance mechanisms, TSMC pursues a zero-incident goal, reinforces on-site safety audits, and extends its prevention efforts to suppliers and contractors, fostering a workplace built on trust and security.

To measure the impact of a healthy and safe workplace, TSMC applies Harvard Business School's Impact-Weighted Accounts methodology to translate management outcomes into social value. For risks such as cardiovascular disease, the Company evaluates the effectiveness of health management in lowering incidence rates and calculates savings in healthcare costs. TSMC also assesses the value of sexual harassment prevention in protecting victims' psychological well-being and reducing social welfare losses caused by physical and mental harm. In addition, the Company uses the human capital approach to estimate medical costs and productivity losses from occupational injuries, providing a comprehensive view of the broader social benefits of workplace safety.

Input / Output	Impact on Well-being	Valuation (NT$ Million Equivalent)
(Taiwan Sites) **73,734** Employees participated in health screenings; **22,721** Cardiovascular disease risk cases effectively managed through health programs	**3.31~25.8 %** Attributable risk of cardiovascular disease from hypertension, high blood sugar, high blood lipids, and excess weight	**274** ⊕ Healthcare costs avoided through employee health management
(Global Sites) **28** Employee sexual harassment incidents	Physical and mental harm, anxiety, depression, and post-traumatic stress disorder caused by sexual harassment, as well as long-term psychological impacts leading to loss of future well-being	**56.72** ⊖ Social costs of sexual harassment experienced by employees
(Global Sites) **1,629 days** Lost workdays due to occupational injuries among employees and contractor workers	**NT$ 370 million** Willingness-to-pay value among employees and contractor workers to avoid health losses from occupational injuries	**1.43** ⊖ Social costs of occupational injuries among employees
1 Contractor worker fatality due to occupational injury	**NT$ 1,464 million** Socioeconomic losses from contractor worker fatalities due to occupational injuries	**17** ⊖ Social costs of occupational injuries among contractors

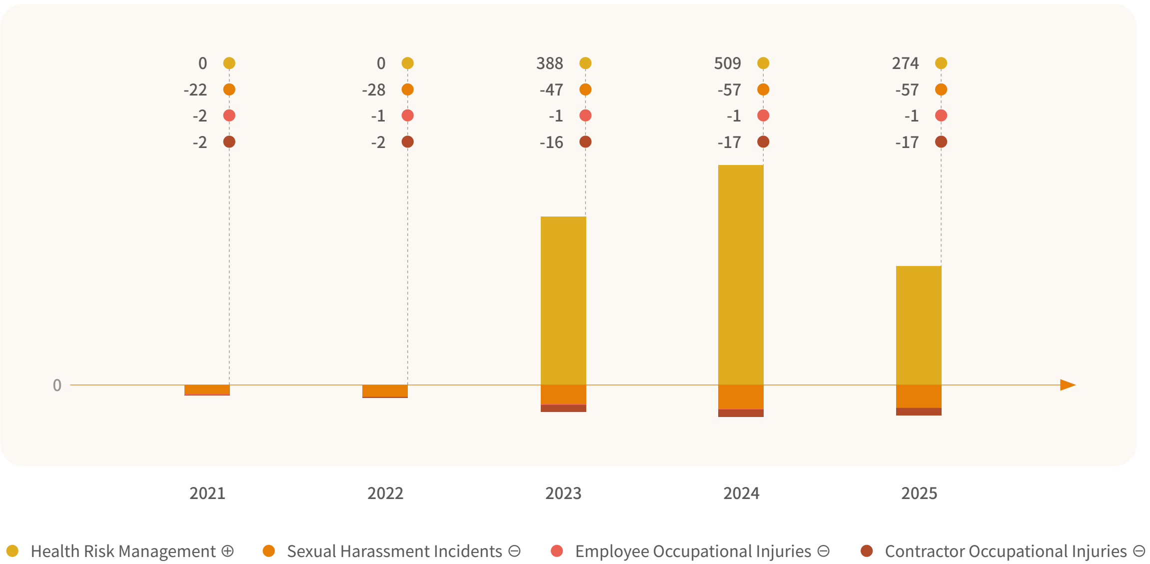
Global Sites
Taiwan Sites

Analysis Results

In 2025, 73,734 employees in Taiwan participated in health screenings. For those identified with cardiovascular risk factors—including abnormal blood pressure, blood sugar, blood lipids, or excess weight—TSMC provided health education and follow-up care, successfully helping 22,721 employees manage their health risks and avoid an estimated NT$274 million in healthcare costs. On sexual harassment prevention, the Company received 45 complaints in 2025, of which 28 were substantiated upon investigation. The social cost associated with victims' physical and mental harm and long-term well-being losses is estimated at approximately NT$56.72 million. TSMC addresses confirmed misconduct with disciplinary measures such as job reassignment or termination and provides protection and assistance based on the needs of complainants.In terms of safety culture, TSMC is dedicated to building a zero-incident workplace. In 2025, 58 employees experienced occupational injuries, resulting in 636 lost workdays and NT$1.43 million in social costs. The primary causes were trips from dropped objects during equipment maintenance and musculoskeletal injuries from improper manual handling posture. Additionally, among contractors, 48 occupational injuries occurred, resulting in 993 lost workdays and one fatality, generating NT$17 million in social costs.

Social Externalities of a Healthy and Safe Workplace Notes 1, 2

Unit: NT$ Million Equivalent



Note 1: Since 2023, TSMC has included the social externalities of health risk management in its assessment scope. In line with the Company's global expansion, starting in 2026, TSMC will use voluntary health program participation rate and sick leave absence rate as health risk management targets

Note 2: From 2021 to 2024, the scope of contractor occupational injury data covered Taiwan fabs, TSMC (China), TSMC (Nanjing), and VisEra Technologies Co., Ltd. Starting in 2025, the scope expanded to include TSMC Washington, LLC, TSMC Arizona, and JASM

Management Actions

TSMC acts on five management priorities—health check-ups, health risk management, occupational disease prevention, healthcare and support, and health promotion—complemented by health education to protect employees' physical and mental well-being. Regarding sexual harassment prevention, a dedicated Sexual Harassment Investigation Committee conducts case investigations and management, providing support to affected employees based on their needs. TSMC also continues to reinforce its occupational safety management system, driving a safety culture centered on safety awareness, safety communication, and diverse training programs, ensuring that employees and value chain partners can pursue technological breakthroughs in a healthy and safe workplace built on dignity, trust, and well-being.

Providing Comprehensive Health Management

TSMC builds a protection framework that integrates physical health monitoring and psychological empowerment. Through its health management system, the Company tracks abnormal physiological indicators to reduce cardiovascular disease risk, while also safeguarding employees' psychological capital through stress self-report surveys and professional counseling. This holistic health management approach enhances employees' career vitality and quality of life, while also lowering potential healthcare costs.

Promoting Safety Culture

Targeting a zero-incident workplace, TSMC identifies potential hazards, controls risks, and provides comprehensive training to instill a STOP & FIX mindset, turning safety awareness into self-driven behavior. TSMC also applies safety performance indicators to control risks at the source, ensuring employee safety and strengthening operational resilience.

Employee Feedback Channels

TSMC has established sexual harassment reporting channels and real-time follow-up mechanisms and applies disciplinary actions such as job reassignment or termination for misconduct while providing necessary protection to complainants. Aiming for a harassment-free workplace, the Company updated its prevention program in 2025 and strengthened case-based communications to enhance employee awareness of prevention measures and reporting channels.

Building Internal–External Alliances

TSMC extends its safety governance to the value chain. The Company provides diversified personal protective equipment designed for Asian body types and has established a cross-organizational construction safety enhancement committee to oversee construction management and supervision. In 2025, TSMC introduced AI-based site monitoring technologies and worked with contractors through joint toolbox meetings and a recognition program for high-performing crews to drive full adoption of safety awareness and environmental management practices.

Social Value Resonance

As a global corporate citizen, TSMC continues to develop its core business while pursuing the vision of "Uplift Society" outlined in its ESG Policy, creating positive impact and shared value. Centered on five core areas—Educational Innovation, Community Inclusion, Ecological Sustainability, Cultural Enrichment, and Health Protection—the Company partners with the TSMC Education and Culture Foundation and the TSMC Charity Foundation to mobilize resources across employees, communities, supply chain partners, and stakeholders in government, industry, academia, and healthcare. By establishing diverse channels for social engagement, TSMC fulfills its commitment to shared value creation through strategic resource investment while continuing to excel in its core business.

To measure the tangible impact of Social Value Resonance, TSMC applies multiple impact valuation models to convert social externalities into monetary-equivalent values. In terms of social investment, the Company aligns with the Business for Societal Impact (B4SI) framework and the Impact Reporting and Investment Standards+ (IRIS+) to measure social inputs across cash contributions, in-kind donations, volunteer time, and management costs. Through quantitative analysis, TSMC evaluates program outcomes in terms of Skills or Personal Effectiveness, Behavioral or Attitudinal Change, and Quality of Life or Well-being for beneficiaries, building a systematic approach to social impact management that measures, manages, and discloses environmental and social impacts.

Input / Output	Impact on Well-being	Valuation (NT$ Million Equivalent)
NT$ 2,625 million Social Investments	235 Social engagement programs	1,779 ⊕ Skills or Personal Effectiveness
23,053 TSMC Volunteers	909 Social engagement pantners	362 ⊕ Behavioral or Attitudinal Change
	3,922,875 Beneficiaries of social engagement programs	485 ⊕ Quality of Life or Well-being

Global Sites
Taiwan Sites

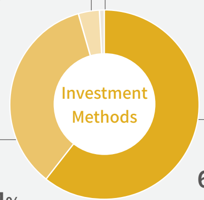
Five Core Areas | Input | Output | Outcome | Impact

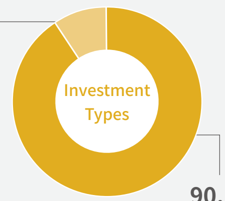
Educational Innovation

Input

Problems Addressed
Shortage of semiconductor, science, and arts talent, gaps between education and workforce skills, and unequal access to educational resources

Target Groups
Elementary and junior high school students, Senior and vocational high school students, university and college students, Educators





Output

Monitoring Indicators

893,061 participants
STEAM Talent Development (PI 5352, PI 7997) Note1

15,691 participants
Students receiving vocational or technical training (PI 8836)

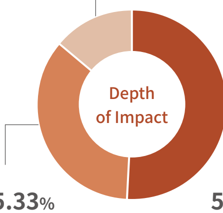
41,323 participants
Teachers receiving training in pedagogical innovation (PI 2998)

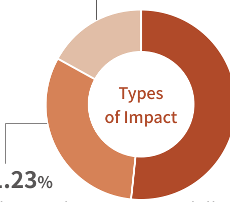
Outcome

- Cultivate students' literacy and capabilities in science, technology, arts, and culture
- Support teachers' professional teaching and research
- Equip students with practical skills for the workplace

Impact

Social Investment
1,811.85 NT$ million



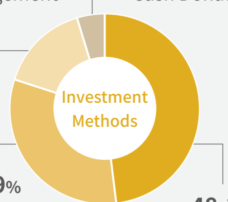


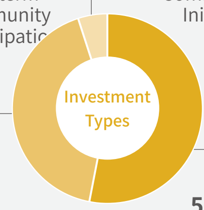
Community Inclusion

Input

Problems Addressed
Strengthening the common interests of TSMC sites and the local community, lack of systematic support for vulnerable groups/ organizations, and difficulty in integrating resources for sudden disasters

Target Groups
Communities near TSMC fabs, Disaster-affected households / families, Under-resourced groups





Output

Monitoring Indicators

112,401 hours
Community inclusion volunteer hours (OI 8429) Note 2

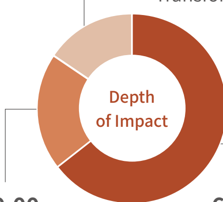
98,609 participants
Community inclusion beneficiaries (PI 2476) Note 2

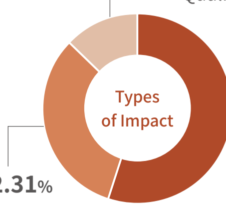
Outcome

- Support local community development and shared value creation
- Support post-disaster recovery and emergency response efforts
- Address the essential living needs of vulnerable groups

Impact

Social Investment
512.62 NT$ million





Note 1: In the IRIS+ framework, letters indicate the dimension to which an indicator belongs in corporate operations or impact assessment. Product Impact (PI) measures the direct contribution of a company's products or services to external target beneficiaries (audiences, customers, or the environment), while Operational Impact (OI) measures the impact of a company's operations on society and the environment

Note 2: The scope of volunteer hours and beneficiary reach includes support for local community development and shared value creation, post-disaster recovery and emergency response, and assistance for vulnerable groups' essential needs

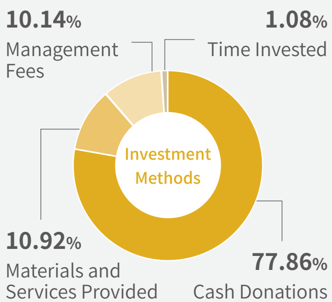
Five Core Areas | Input | Output | Outcome | Impact

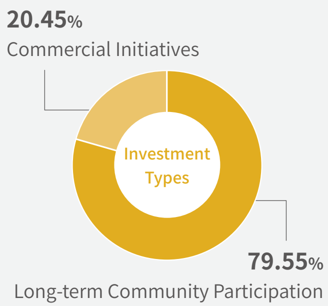
Ecological Sustainability

Input

Problems Addressed
Declining biodiversity, habitat destruction, threats to endangered species, limited awareness of environmental conservation, and urgent global environmental and resource challenges

Target Groups
Ecosystem and environment, primary and secondary students, and the general public





Output

Monitoring Indicators

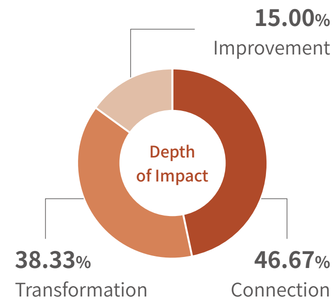
4,584 participants
Citizen science and environmental education (PI 2998)

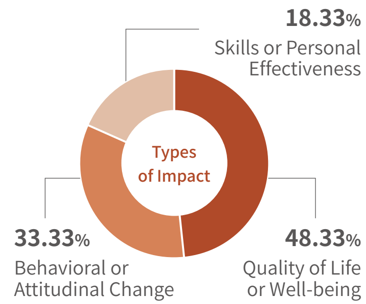
Outcome

- Restore biodiversity by protecting species and habitats Note 3
- Raise public awareness of citizen science and the natural environment

Impact

Social Investment
176.86
NT$ million



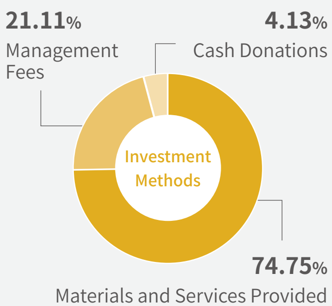


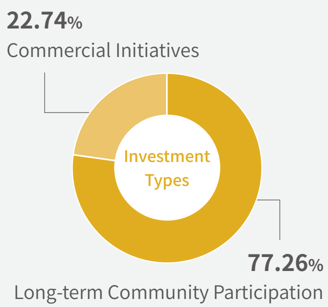
Arts and Culture Literacy

Input

Problems Addressed
Declining biodiversity, habitat destruction, threats to endangered species, limited awareness of environmental conservation, and urgent global environmental and resource challenges

Target Groups
Ecosystem and environment, primary and secondary students, and the general public





Output

Monitoring Indicators

2,187,808 participants
Participants in arts and cultural events (PI 2476)

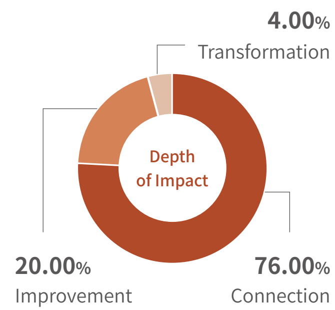
29 Groups
Sponsoring outstanding artists or organizations (Custom)

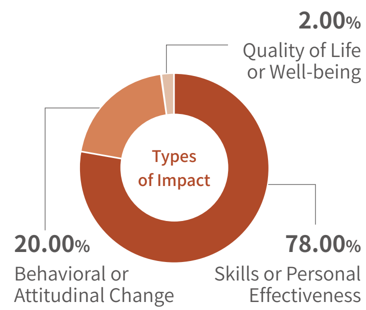
Outcome

- Foster public appreciation for arts and culture
- Provide resources to nurture artistic talents

Impact

Social Investment
90.6
NT$ million





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Note 2: The scope of volunteer hours and beneficiary reach includes support for local community development and shared value creation, post-disaster recovery and emergency response, and assistance for vulnerable groups' essential needs

Five Core Areas | Input | Output | Outcome | Impact

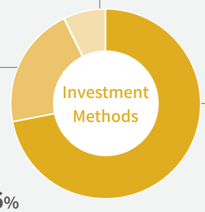
Health Protection

Input

Problems Addressed
Insufficient healthcare resources for the aged, limited comprehensive health support for contractors at TSMC's worksites, and gaps in applying technology to healthcare settings

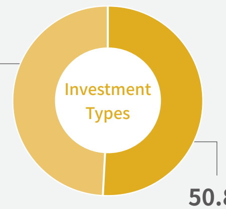
Target Groups
Elderly population, worksite contractors, and medical research institutions

7.14% Cash Donations
72.10% Management Fees



20.76% Materials and Services Provided

49.11% Long-term Community Participation



50.89% Commercial Initiatives

Output

Monitoring Indicators

601,978 participants
Seniors receiving health and medical services (OI 9417)

Outcome

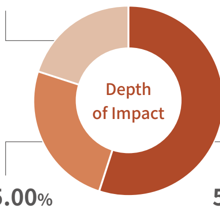
- Increase access to healthcare and medical resources
- Improve the well-being of contractors at worksites Note 3

Impact

Social Investment

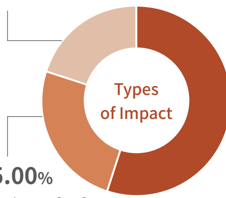
33.78
NT$ million

20.00% Transformation



25.00% Improvement
55.00% Connection

20.00% Skills or Personal Effectiveness



25.00% Quality of Life or Well-being
55.00% Behavioral or Attitudinal Change

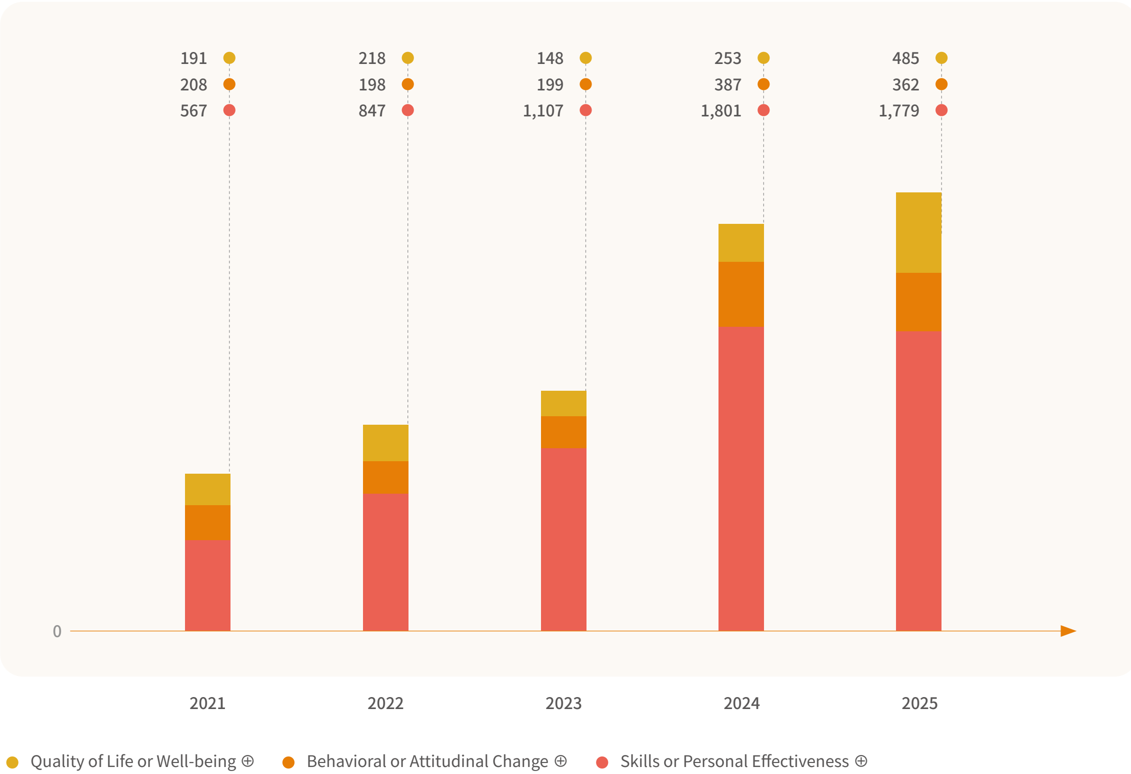
Note 3: This item was designated as a management indicator in 2025, and its performance is scheduled for disclosure in the 2026 Sustainability Impact Valuation Report

Analysis Results

Driving positive change is at the core of social impact. Guided by the principles of empowerment and shared value creation, TSMC transforms corporate resources into long-term momentum for addressing social challenges. In 2025, the Compan's social programs generated NT$2,625.71 million in social value, with Skills or Personal Effectiveness accounting for 67.7%, the largest share, demonstrating the strongest contribution to building beneficiaries' personal capabilities.

Social Value Resonance – Charity Program Social Impact

Unit: NT$ Million Equivalent



Management Actions

TSMC identifies stakeholder needs and works with the TSMC Education and Culture Foundation and the TSMC Charity Foundation to allocate resources across five core areas. These efforts drive educational innovation for all age groups, promote community inclusion, cultivate cultural enrichment, advance ecological sustainability and environmental awareness, and strengthen health protection, delivering positive social impact.

TSMC's Social Engagement

TSMC listens to and responds to stakeholders and leverages its corporate capabilities to support global sustainable development. Through academia–industry collaboration in Taiwan and overseas, the Company develops talent for the next generation of the semiconductor industry. TSMC also advances ecological initiatives, including the Eco Plus! Ecological Harmony Program and the Plant-A-Tree Program, strengthening its connection with the environment and society.

TSMC Education and Culture Foundation

Guided by three strategies—Cultivate the Young Generation, Promote Educational Collaboration, and Promote Arts and Culture—the TSMC Education and Culture Foundation advances science and humanities education, cultivates future talent in science and technology, and builds diverse platforms for young people. By empowering teachers and students, the Foundation expands educational impact. It also promotes arts and cultural programs to enhance artistic literacy among students and the public, preserve cultural heritage, and reinforce social value.

TSMC Charity Foundation

The TSMC Charity Foundation focuses on three strategies—Empower Education, Care for the Elderly, and Protect the Environment—and trains TSMC volunteers to promote community care initiatives. The Foundation invests resources to close learning gaps for students, build platforms for career exploration and vocational training, and develop innovative eldercare models. It also promotes energy efficiency and environmental awareness through green energy initiatives for public benefit, putting shared value into practice.

Extended Management Applications

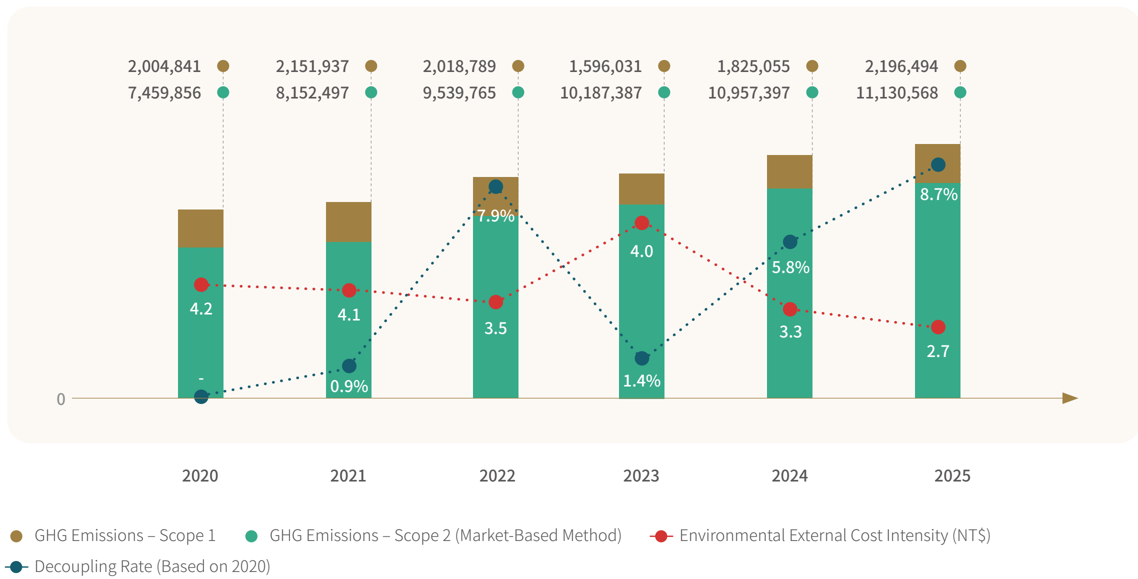
Decoupling Rate Between Financial Performance and Environmental Impact

Driven by global digital transformation and growing demand for artificial intelligence, TSMC continues to expand its advanced process capacity, raising consolidated revenue from NT$1.59 trillion in 2021 to NT$3.81 trillion in 2025. At the same time, in line with green manufacturing principles, TSMC has reduced the social cost of carbon (SCC) intensity of Scope 1 and Scope 2 greenhouse gas emissions year over year by improving process efficiency and expanding renewable energy use. Analysis shows that the Company's environmental external costs per NT$100 of revenue decreased from approximately NT$4.1 in 2021 to approximately NT$2.6 in 2025.

TSMC also applies the Decoupling Rate concept developed by EcoMap, an international nonprofit research organization, to assess financial performance against environmental impact. Using 2020 as the base year, TSMC achieved a positive decoupling rate of 8.8% over the past five years, demonstrating that the Company has maintained strong profitability while building adaptative resilience to climate transition risks. Looking ahead, TSMC will continue to raise process efficiency and pursue green innovation, working with supply chain partners to reduce environmental impact and create sustainable value for stakeholders.

Environmental External Cost Intensity and Decoupling Rate

Unit: tCO_2e



What Is the Decoupling Rate?

he decoupling rate is based on environmental external cost intensity and combines this with the compound annual growth rate (CAGR) to assess year-over-year changes.

Positive Decoupling Rate

Revenue grows while environmental external costs decline, showing that a company has optimized its operations to achieve both strong financial performance and climate resilience

Negative Decoupling Rate

Revenue grows while environmental external costs increase, showing that a company' s financial performance has not decoupled from its environmental impact and that it faces transition challenges

EP&L Assessment of Critical Raw Material Suppliers

To understand potential environmental impacts across its supply chain, TSMC launched a supplier assessment program in 2020 covering 11 categories of critical raw materials, based on three principles: comparability, data completeness, and procurement weight. Using Life Cycle Assessment (LCA) as the foundation and applying monetized impact valuation methods, the Company evaluates environmental externalities associated with raw material sourcing, energy and resource consumption, pollutant emissions, transportation, and distribution activities throughout the supply chain. As of 2025, TSMC has completed assessments for 171 raw material items. The Company also conducted advanced analyses of bulk chemicals used in semiconductor photolithography and etching processes, as well as specialty gases with high global warming potential, and developed corresponding management strategies. By benchmarking peer performance, TSMC identifies opportunities for improvement and works with supply chain partners to accelerate its green transition.

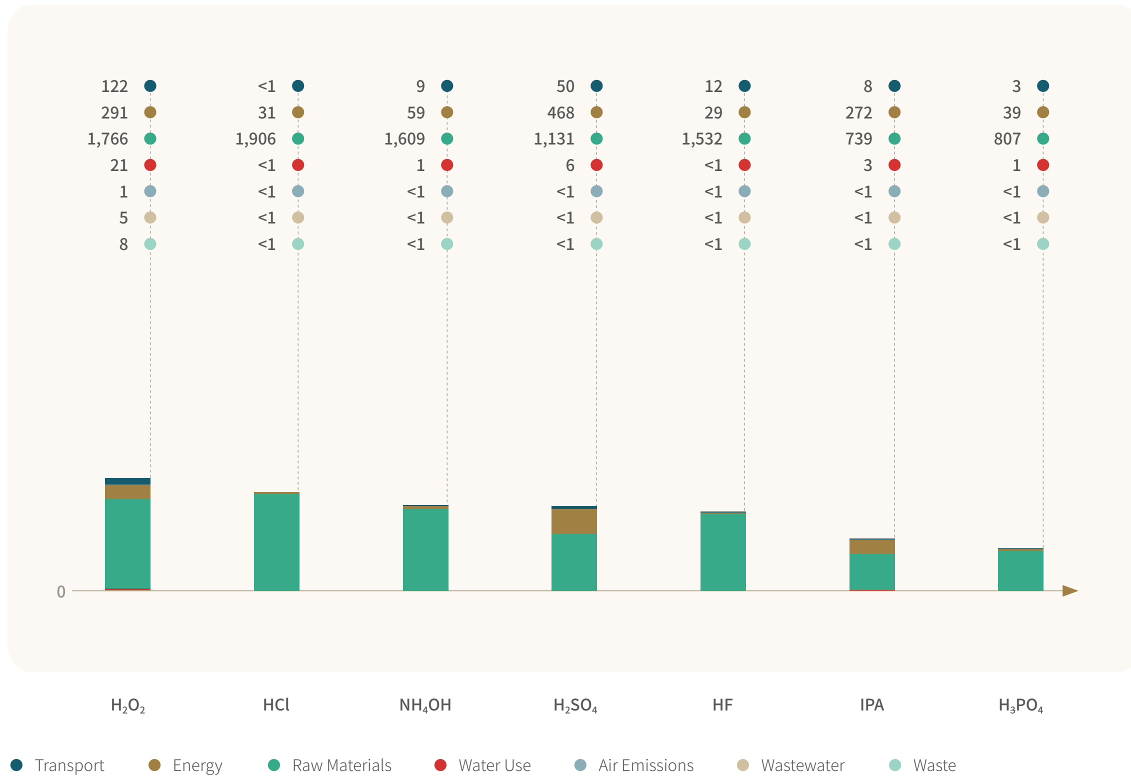
This includes silicon wafers, bulk chemicals, non-process chemicals, bulk gases, specialty gases, bulk lithographic materials, litho photoresists, far backend lithography materials, precursors, specialty chemicals, and slurries.

Advanced Analysis 1: Bulk Chemicals

Given the significant environmental external costs associated with bulk chemicals, TSMC promotes source reduction and recycling by optimizing wet etching tool parameters to improve the efficiency of hydrogen peroxide and sulfuric acid use, while continuing to upgrade its Waste Sulfuric Acid Reclaim System. In 2025, the Company overcame a key barrier in reducing carbon emissions from liquid ammonia, partnering with an aqueous ammonia suppliers for the first time to launch the Blue Ammonia Adoption Project. At the same time, TSMC expanded its Electronic Grade Chemicals Recycling Program, successfully regenerating electronic-grade isopropyl alcohol (IPA) to lower new liquid purchases. Looking ahead, TSMC plans to evaluate the feasibility of recycling additional chemicals such as hydrochloric acid and hydrofluoric acid to further enhance resource circularity.

Ammonium Hydroxide (NH_4OH)	Isopropanol Alcohol (IPA)
TSMC extended its influence to liquid-ammonia producers upstream of its aqueous ammonia suppliers, encouraging the adoption of blue ammonia produced with carbon capture and storage technology, which lowers the product carbon footprint by 60%–70% compared to conventional gray ammonia. In 2025, the Company became the first semiconductor company in Taiwan to adopt blue ammonia at Fab 14A, with an estimated quarterly carbon reduction of 250 metric tons. TSMC plans to expand adoption across all Taiwan fabs by 2030, achieving an annual carbon reduction of 70,000 metric tons and generating NT$530 million in external environmental benefits.	TSMC worked with suppliers to develop a dual-cycle recycling mechanism for IPA waste liquid treatment, successfully regenerating electronic-grade IPA for reuse in the manufacturing process and purifying recovered wastewater for reuse in cooling towers. In 2025, TSMC introduced this process at Fab 15B, reducing annual purchases of new liquid by approximately 2,400 metric tons and cutting carbon emissions by 486 metric tons, generating NT$3.69 million in external environmental benefits.

Unit: NT$ Million Equivalent



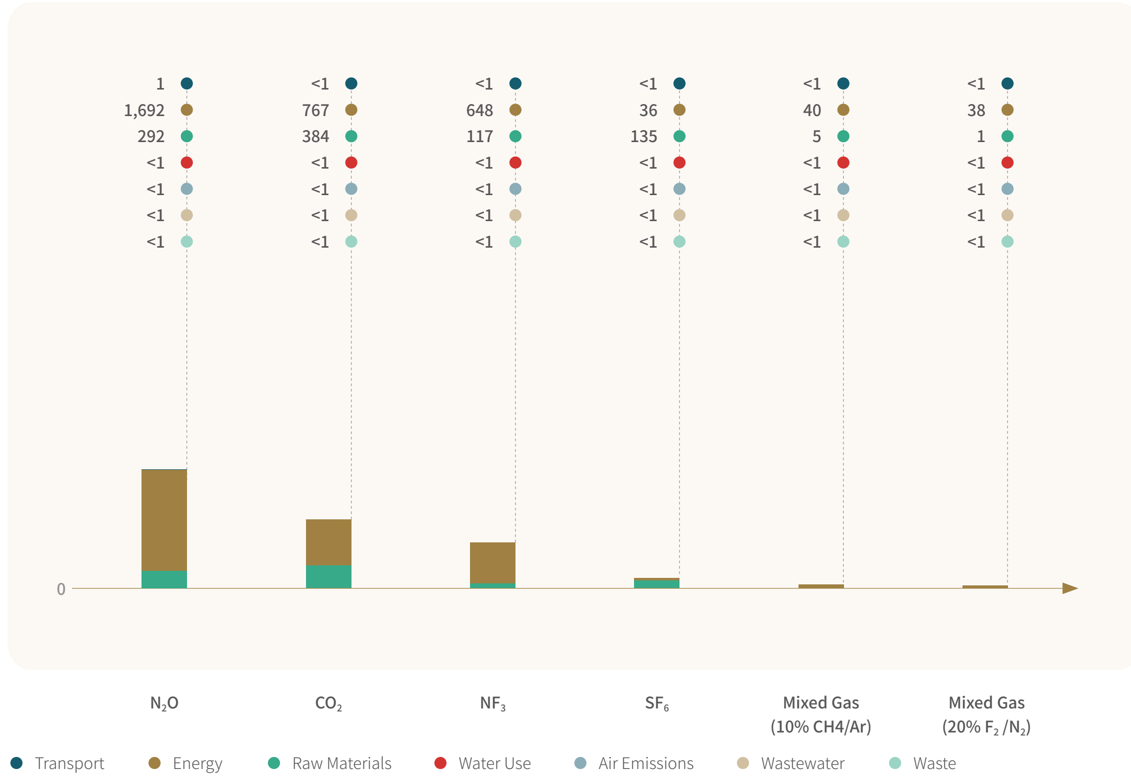
Advanced Analysis 2: Specialty Gases

Specialty gases with high global warming potential have a significant impact on climate change. TSMC focuses its reduction efforts on nitrous oxide, which carries the highest external environmental costs, through its N_2O Abatement Project, upgrading cracking technology to improve exhaust gas treatment efficiency and enhance abatement performance and environmental quality.

Nitrous Oxide (N_2O)

TSMC worked with suppliers to retrofit electric-heating local scrubbers, introducing methane as a reducing agent. At high temperatures, methane decomposes to generate free radicals that react with nitrous oxide and promote its decomposition, further improving removal efficiency. Testing showed the nitrous oxide abatement rate for a single unit rose from 42% to 90%, while nitrogen oxide emissions fell by an additional 40%. This technology has been successfully deployed at Fab 12A, Fab 12B, Fab 14A, Fab 14B, Fab 15A, and Fab 15B, and incorporated into the standard design for new fabs. TSMC plans to complete equipment retrofits or replacements at all existing fabs by 2028, further enhancing its gas treatment capabilities.

Unit: NT$ Million Equivalent



Appendix

Glossary

Term	Definition
Externalities	Refers to the positive or negative impacts of a company's operations on external society, the environment, and human well-being that are not reflected in the company's direct costs or revenues
Eight Dimensions of Well-being	Derived from the OECD framework "Measuring Business Impacts on People's Well-being and Sustainability," covering physical and mental health, environmental quality, income and wealth, employment quality, knowledge and skills, work-life balance, subjective well-being, and social connections, these dimensions are used to assess the contribution of each impact to human well-being
Inclusive Wealth	A concept proposed by the United Nations Environment Programme, suggesting that a nation's or organization's wealth should include the combined value of produced capital, human capital, and natural capital
Consumption Smoothing	Refers to consumers' tendency to maintain stable consumption levels rather than adjust consumption in response to significant income fluctuations
Disability-Adjusted Life Year (DALY)	A World Health Organization indicator measuring the overall burden of disease. Each DALY represents one year of healthy life lost due to poor health
Biodiversity Pressure Index	Assessed using the WWF Biodiversity Risk Filter, covering dimensions such as land, freshwater, and sea use change, forest canopy loss, invasive species, and pollution
Wastewater	Water quality monitoring indicators for wastewater include Chemical Oxygen Demand (COD) and heavy metals such as lead (Pb), cadmium (Cd), chromium (Cr), mercury (Hg), hexavalent chromium (Cr6+), copper (Cu), zinc (Zn), arsenic (As), nickel (Ni), molybdenum (Mo), and silver (Ag)
Potentially Disappeared Fraction of Species (PDF)	An indicator measuring biodiversity loss risk. It assesses the potential total impact of species loss caused by harmful factors, such as pollution and land-use change, within a specific time and geographic scope. It is calculated by multiplying the Potentially Disappeared Fraction of species (PDF) by area (m^2) and time (yr)
Air Pollutants	Covers 10 categories of pollutants: ammonia (NH_3), sulfuric acid (H_2SO_4), nitric acid (HNO_3), phosphoric acid (H_3PO_4), hydrofluoric acid (HF), chlorine (Cl_2), hydrochloric acid (HCl), nitrogen oxides (NOx), sulfur oxides (SOx), and non-methane hydrocarbons (NMHC). Overseas fabs are gradually expanding monitoring coverage to all categories
Waste Incineration	Refers to air pollutants generated during the incineration process, including particulate matter (PM2.5), nitrogen oxides (NOx), sulfur oxides (SOx), lead (Pb), cadmium (Cd), mercury (Hg), and dioxins
Tier 1 Supplier	Refers to suppliers that directly transact with TSMC, receive more than three purchase orders annually, and have transaction values exceeding NT$5 million, excluding warehousing providers, hospitals, and suppliers with no future transactions
Supply Chain Air Pollutants	Covers 19 substances, including nitrogen oxides (NOx), sulfur oxides (SOx), ammonia (NH3), particulate matter (TSP, PM2.5, PM10), non-methane volatile organic compounds (NMVOC), organic pollutants (benzo(a)pyrene, PAHs, PCBs, PCDD, HCB), and heavy metals such as lead (Pb), cadmium (Cd), mercury (Hg), copper (Cu), arsenic (As), zinc (Zn), and nickel (Ni)
Occupational Segregation	Refers to unconscious bias arising from systemic social factors in recruitment and job assignment, resulting in the concentration of certain genders in specific roles and contributing to gender pay gaps
Cardiovascular Disease Attributable Risk	Refers to the proportion of cardiovascular disease attributable to individual risk factors, including hypertension, hyperlipidemia (high cholesterol), hyperglycemia (diabetes), and obesity, accounting for 25.8%, 7.22%, 3.31%, and 12.81%, respectively
Skills or Personal Effectiveness	Refers to helping beneficiaries develop new skills or enhance existing skills to support their academic, professional, and social development
Behavioral or Attitudinal Change	Refers to guiding beneficiaries to change behaviors or attitudes to improve quality of life or opportunities and support more informed and comprehensive decision-making
Quality of Life or Well-Being	Refers to improving beneficiaries' health, happiness, and comfort, including emotional well-being, social connections, and physical and mental health
External Environmental Costs	Refers to the environmental footprints and resource consumption generated during production and operations, monetized as external environmental costs
External Environmental Cost Intensity	Refers to the ratio of external environmental costs to operating revenue in a given year
Discount Rate	A key factor influencing the social cost of carbon. A higher discount rate indicates greater emphasis on short-term benefits over long-term benefits. This report applies a median value of 2%

Value Chain Impact Pathway

Value Chain ▶ Input / Output ▶ Outcome ▶ Impact ▶ Valuation

Input / Output: Operational Inputs and Outputs | Outcome: Impacts on Well-being | Impact: Eight Well-being Dimensions | Valuation: Impact Level

Value Chain	Input / Output		Outcome type	Outcome	+/−	Human Health	Environmental Quality	Income and Wealth	Employment and Wages	Education and Skills	Work-Life Balance	Subjective Well-Being	Social Connections	impact object	Impact Level
Upstream Procurement	Payment to Suppliers for Procurement	PI5478	Social Externality	Procurement demand driving industry supply and demand relationships	+			v						Society	●●●●●●●●
			Social Externality	Procurement demand creating supply chain job opportunities	+			v	v					External Employees	●●●●●●○○
			Social Externality	Risks of forced labor resulting in loss of freedom and risks to physical and mental health for workers	−	v					v			External Employees	●●○○○○○○
			Social Externality	Risks of child labor resulting in loss of access to quality education and future income	−			v		v				External Employees	●○○○○○○○
			Environment Externality	Environmental impact of GHG emissions derived from supply chain production processes	−	v	v	v	v					Environment	●●●●○○○○
			Environment Externality	Environmental impact of air pollution emissions derived from supply chain production processes	−	v	v							Environment	●●●●○○○○
	Effectiveness of Supplier Consultation	OI6697	Environment Externality	Assisting suppliers in energy-saving to avoid environmental impact from GHG emissions	+	v	v	v	v					Environment	●●●○○○○○
		OI4015	Environment Externality	Assisting suppliers in water-saving to avoid environmental impact from water resource scarcity	+	v	v							Environment	●●○○○○○○
		OI7920	Environment Externality	Assisting suppliers in waste reduction to avoid environmental impact from waste generation	+	v	v							Environment	●●○○○○○○
TSMC Operations	Net Revenue	FP6510	Gross Value Added (GVA)	Bringing returns to investors and fostering economic growth momentum	+			v						Shareholders/ Investors	●●●●●●●●
	Depreciation	FP9573	Gross Value Added (GVA)	Changes in fixed assets generate revenue for suppliers	+			v						Suppliers/ Contractors	●●●●●●●○
	Amortization	–	Gross Value Added (GVA)	Knowledge-based intangible assets help in the development and application of industry technology	+			v						Customers	●●●○○○○○
	R&D Expenses	–	Gross Value Added (GVA)	R&D expenses aids in the development and application of industry technology	+			v						Customers	●●●●●●○○
	Tax	FP5261	Gross Value Added (GVA)	Supporting government initiatives for infrastructure expansion and social welfare	+			v					v	Government, Society	●●●●●●○○
	GHG Emissions	OI1479	Environment Externality	Changes in GHG concentrations driving global warming	−	v	v	v	v					Environment	●●●●●●○○
	Use of Renewable Energy	OI2496	Environment Externality	Changes in GHG concentrations mitigating global warming	+	v	v	v	v					Environment	●●●●○○○○
	Effectiveness of Energy-saving Measures	OI6697	Environment Externality	Changes in GHG concentrations mitigating global warming	+	v	v	v	v					Environment	●●●●○○○○
	Water Consumption	OI0263	Environment Externality	Changes in water resource availability intensifies water usage pressure in nearby communities	−	v	v							Environment	●●●○○○○○
	Use of Reclaimed Water	OI1927	Environment Externality	Changes in water resource availability reduces water usage pressure in nearby communities	+	v	v							Environment	●●●○○○○○
	Water Conservation and Water Resource Recycling and Usage	OI4015	Environment Externality	Changes in water resource availability reduces water usage pressure in nearby communities	+	v	v							Environment	●●●●○○○○
	Wastewater Discharge	OI0386	Environment Externality	Changes in pollutant concentrations in water bodies leading to health and ecological impacts	−	v	v	v	v					Environment	●●○○○○○○

Social Externality | Environment Externality | Gross Value Added (GVA)

Human Health | Environmental Quality | Income and Wealth | Employment and Wages | Education and Skills | Work-Life Balance | Subjective Well-Being | Social Connections

Shareholders/ Investors | Customers | Suppliers/ Contractors | Society | Environment | Government | Internal Employees | External Employees

Value Chain ▸ Input / Output ▸ Outcome ▸ Impact ▸ Valuation

Value Chain	Input / Output: Operational Inputs and Outputs		Outcome: Impacts on Well-being	Impact (+/−)	Human Health	Environmental Quality	Income and Wealth	Employment and Wages	Education and Skills	Work-Life Balance	Subjective Well-Being	Social Connections	impact object	Valuation: Impact Level
TSMC Operations	Air Pollution Emissions	–	Changes in air pollution concentrations in the atmosphere leading to health and ecological impacts	−	v	v							Environment	●●○○○○○○
	Waste Disposal	O16192	Air pollution and GHG emissions from incineration and landfill	−	v	v	v	v					Environment	●●●○○○○○
	Employee Compensation and Benefits	O14724	Increased happiness and purchasing power from compensation above the living wage	+			v	v			v		Internal Employees	●●●●●●○○
	Employee Support Programs	O12742	Work-life balance improvement through paid leave and family-friendly support	+						v			Internal Employees	●●●○○○○○
	Incidents of Workplace Sexual Harassment	O19077	Medical costs and loss of future well-being resulting from physical and mental injuries	−	v		v						Internal Employees	●○○○○○○○
	Employee Training and Development	O17877	Enhanced professional skills and employability through training	+			v	v	v				Internal Employees	●●●○○○○○
	Employee Compensation Structure	–	Boost salary growth potential through equal opportunities for women in high-paying positions	+			v	v					Internal Employees	●●●○○○○○
		–	Potential salary compensation costs from unequal opportunities for women in high-paying positions	−			v	v					Internal Employees	●●●○○○○○
	Employees with Improved Health Management	O14061	Lifestyle and health improvements through health education	+	v					v			Internal Employees	●●○○○○○○
	Employee Occupational Accidents	O13757	Physical and mental impact of workers and healthcare expenditure	−	v		v			v			Internal Employees	●○○○○○○○
	Employee Occupational Accident Fatalities	O16525												
	Contractor Occupational Accidents	O13757	Physical and mental impact of workers and healthcare expenditure	−	v		v			v			Internal Employees	●○○○○○○○
	Contractor Occupational Accident Fatalities	O16525												
	Social Investments	O11619	Promotion of local community relations and improvement of life quality	+					v			v	Society	●●●○○○○○
Customer Use	enefits of Energy-efficient Products	PI7623	Assisting customers in product energy efficiency to prevent and mitigate environmental impacts from GHG emissions	+	v	v	v	v					Customers, Environment	●●●●○○○○

Impact Value

Monetary Value (NT$ Million)	Positive Impact Level	Monetary Value (NT$ Million)	Negative Impact Level
>1,000,000	●●●●●●●●	>1,000,000	●●●●●●●●
500,000 to 1,000,000	●●●●●●●○	500,000 to 1,000,000	●●●●●●●○
100,000 to 500,000	●●●●●●○○	100,000 to 500,000	●●●●●●○○
50,000 to 100,000	●●●●●○○○	50,000 to 100,000	●●●●●○○○
10,000 to 50,000	●●●●○○○○	10,000 to 50,000	●●●●○○○○
1,000 to 10,000	●●●○○○○○	1,000 to 10,000	●●●○○○○○
100 to 1,000	●●○○○○○○	100 to 1,000	●●○○○○○○
0 to 100	●○○○○○○○	0 to 100	●○○○○○○○

Social Externality | Environment Externality | Gross Value Added (GVA)

Human Health | Environmental Quality | Income and Wealth | Employment and Wages | Education and Skills | Work-Life Balance | Subjective Well-Being | Social Connections

Shareholders/ Investors | Customers | Suppliers/ Contractors | Society | Environment | Government | Internal Employees | External Employees

Integrated Profit & Loss Statement (IP&L)

	Impact Indicators	Type	Monetary Value (NT$ million)				
			2021	2022	2023	2024	2025
Financial capital	Net Income After Tax	⊕	597,073	1,016,901	837,768	1,172,432	1,715,397
	Tax Payments	⊕	93,583	101,451	189,005	202,045	291,301
	Compensation	⊕	133,470	196,121	181,560	233,144	314,779
	Total		**824,126**	**1,314,472**	**1,208,332**	**1,607,621**	**2,321,476**
Manufactured capital	Depreciation	⊕	414,188	428,498	522,933	653,610	679,684
	Total		**414,188**	**428,498**	**522,933**	**653,610**	**679,684**
Intellectual capital	Amortization	⊕	8,207	8,756	9,258	9,186	8,412
	R&D Expenditure	⊕	124,735	163,262	182,370	204,182	246,427
	Total		**132,942**	**172,018**	**191,628**	**213,368**	**254,840**
Human capital	Support for Life and Family	⊕	80	109	4,849	6,171	7,984
	Sexual Harassment	⊖	-22	-28	-47	-57	-57
	Training Benefits for Employees' Future Income [Note 1]	⊕	–	–	1,157	1,541	2,297
	Equal Opportunity [Note 1]	⊕	–	–	1,958	2,306	3,075
	Equal Opportunity [Note 1]	⊖	–	–	-1,211	-1,565	-1,867
	Employee Health Management [Note 1]	⊕	–	–	388	509	274
	Employee Occupational Injuries	⊖	-2	-1	-1	-1	-1
	Contractor Occupational Injuries	⊖	-2	-2	-16	-17	-17
	Total		**53**	**78**	**7,078**	**8,887**	**11,689**
Natural capital	Supply Chain GHG Emissions	⊖	-16,168	-20,496	-19,040	-29,876	-39,540
	Supply Chain Air Emissions	⊖	-4,722	-5,422	-5,035	-11,259	-14,418
	Assisting Suppliers in Energy-Saving	⊕	434	643	1,019	765	1,214
	Assisting Suppliers in Water-Saving	⊕	760	417	600	546	787
	Assisting Suppliers in Waste Reduction	⊕	62	76	100	114	846
	GHG Emissions from TSMC Operations	⊖	-65,695	-78,059	-95,869	-107,700	-120,095
	Benefits from Renewable Energy Use	⊕	5,193	7,398	9,173	13,050	21,317

Note : Since 2023, TSMC has incorporated data collection and externality analysis for indicators including Training Benefits for Employees' Future Income, Equal Opportunity, and Employee Health Management

	Impact Indicators	Type	Monetary Value (NT$ million)				
			2021	2022	2023	2024	2025
Natural capital	Benefits from Energy-Saving Measures	⊕	9,278	12,217	14,931	17,289	20,364
	Water Consumption from TSMC Operations	⊖	-3,660	-4,612	-4,539	-4,861	-5,709
	Benefits from Reclaimed Water Use	⊕	–	–	563	878	1,016
	Benefits from Water-Saving Measures	⊕	8,822	10,122	13,513	13,459	15,135
	Wastewater Discharge from TSMC Operations	⊖	-375	-447	-403	-417	-573
	Air Emissions from TSMC Operations	⊖	-143	-127	-125	-164	-190
	Waste Disposal from TSMC Operations	⊖	-532	-725	-795	-977	-947
	Energy-Efficient Product Design	⊕	165,759	270,068	423,954	541,859	676,063
	Total		**99,013**	**191,051**	**338,048**	**432,704**	**555,271**
Social capital	Supply Chain Output Value Driven by TSMC	⊕	2,438,809	2,975,236	2,309,802	3,525,169	4,565,574
	Supply Chain Employee Compensation	⊕	214,113	267,534	199,008	292,916	387,232
	Human Rights Risk—Forced Labor	⊖	-439	-525	-473	-747	-1,053
	Human Rights Risk—Child Labor	⊖	-1.6	-0.6	-0.7	-1.9	-0.3
	Value of Social Investments	⊕	966	1,263	1,454	2,441	2,626
	Total		**2,653,448**	**3,243,508**	**2,509,791**	**3,819,777**	**4,954,379**
Net Impact			**4,123,769**	**5,349,626**	**4,777,810**	**6,735,968**	**8,777,339**

Indicator Calculation

Indicators	Activity Data	Analysis Methodology	Reference	International Framework Alignment
GHG Emissions, Energy-saving Measures and Renewable Energy Scope Global	• GHG emissions (scope 1 and scope 2) • Usage of self-generated renewable energy • Usage of purchased renewable energy	GHGs are gases in the atmosphere that absorb and emit infrared radiation, trapping heat in the Earth's surface and troposphere, creating the greenhouse effect. TSMC adopted the social cost of carbon (SCC) as the external cost coefficient per unit of GHG emissions within the EP&L framework, which represents the social costs arising from the enduring harm to global physical and economic systems caused by climate change, including property and economic losses from physical disasters, damage to human health, and the economic costs associated with energy transition to avoid temperature rise.	US EPA（2023）、IFVI & VBA（2024）	**IRIS+ Metrics** OI1479：Greenhouse Gas Emissions: Total OI2496：Energy Produced On-site: Renewable OI3324：Energy Purchased: Renewable **UN SDGs** 7 Affordable and Clean Energy 13 Climate Action
Water Resource Consumption, Water-saving Measures and Reclaimed Water Scope Global	• Water consumption • Reclaimed water usage • Water savings	Water resources are critical assets for sustaining society and natural ecosystems. They are widely utilized for household, agricultural, and industrial purposes. Water scarcity may lead to diminished crop yields and subsequent malnutrition, as well as the spread of waterborne diseases due to the absence of clean domestic water sources (Kounina et al., 2013; Boulay et al., 2011; UNEP, 2016). Adopting the EP&L approach, TSMC examined factors such as the water stress index and the human development index to evaluate the potential ramifications for human health arising from the risk of agricultural and domestic water shortages in TSMC's vicinity due to its water consumption. Furthermore, the Company complemented this assessment with the value of a statistical life (VSL) method to gauge the social costs stemming from human health impairments.	Pfister et al. (2009), LC-Impact (2016), Motoshita et al. (2011), OECD (2025), IFVI & VBA (2026), WWF Biodiversity Risk Filter, Ecosystem Service Valuation Database, ESVD	**IRIS+ Metrics** OI0263：Water Withdrawn OI1927：Water Consumed: Recycled OI4015：Water Conserved **UN SDGs** 6 Clean Water and Sanitation
Wastewater Discharge from TSMC Operations Scope Global	• Wastewater Discharge	Pollutants can enter the human body via a number of pathways including direct ingestion (e.g., drinking), indirect ingestion (e.g., via bioaccumulation) and direct inhalation (e.g., evaporated pollutants). Long-term exposure can lead to chronic health issues such as cancer, increase the risk of adverse pregnancy outcomes, and reduce mental and central nervous function (PwC UK, 2015; CE Delft, 2018). Methane emissions may occur during the anaerobic treatment of industrial wastewater, while nitrous oxide emissions may arise from wastewater nitrification and denitrification processes (IPCC, 2006). TSMC assessed the human toxicity potential (HTP) resulting from heavy metals and chemical substances in its industrial wastewater within the EP&L framework. This assessment was complemented by applying the value of a statistical life (VSL) methodology to gauge the social costs linked to human health impairments. Furthermore, by evaluating the COD and total nitrogen content in wastewater, the Company computed potential emissions of GHGs, such as methane and nitrous oxide, produced during wastewater treatment at each operational site. This analysis enabled the estimation of their social cost of carbon (SCC).	USEtox (2017), IPCC (2006), US EPA (2023), CE Delft (2018), OECD (2025), IFVI & VBA (2026)	**IRIS+ Metrics** OI0386：Water Discharged **UN SDGs** 6 Clean Water and Sanitation

Indicators	Activity Data	Analysis Methodology	Reference	International Framework Alignment
Air Pollution Emissions Scope Global	• Air pollutant emissions	Air pollutants, whether emitted directly or formed through secondary reactions with other elements, lead to increased incidences of respiratory and cardiovascular diseases (WHO, 2006). Using an EP&L framework, TSMC assessed the particulate matter formation potential (PMFP), human health ozone formation potential (HOFP), and human toxicity potential (HTP) resulting from air pollutant emissions during operations, which are linked to these diseases. Additionally, the Company applied VSL to estimate the social costs associated with human health losses.	CML (2016), ReCiPe (2018), LC-Impact (2016), CE Delft (2018), OECD (2025), IFVI & VBA (2026)	**UN SDGs**
Waste Disposal Scope Global	• Volume of industrial waste incineration and landfill treatment	The incineration of waste generates air pollutants, primarily comprising particulate matter, nitrogen oxides, sulfur oxides, dioxins, and heavy metals, which can exert substantial adverse effects on human health, including cancer or cognitive impairment. Moreover, both waste incineration and decomposition in incinerators or landfills also contribute to GHG emissions (EXIOPOL, 2009; PwC UK, 2015). TSMC assessed the potential impact of air pollutants resulting from waste incineration on human health using the EP&L framework. This was supplemented by the application of the value of a statistical life (VSL) to estimate the social costs associated with human health impact. Furthermore, by considering factors such as the dry matter weight, organic carbon content, fossil carbon content, and incineration efficiency of various types of waste, TSMC estimated the GHG emissions from waste incineration and methane emissions from anaerobic decomposition during landfilling using the First Order Decay (FOD) model. This enabled the estimation of the social cost of carbon (SCC) incurred by both incineration and landfilling processes.	LC-Impact (2016), USEtox (2017), IPCC (2006), US EPA (2023), OECD (2025), IFVI & VBA (2026)	**IRIS+ Metrics** OI6192：Waste Disposed: Total **UN SDGs**
Compensation Balancing Quality of Life Scope Global	• Labor cost – salary and bonus	TSMC assesses both the social benefits and costs linked to the disparity between employee compensation and an adequate local living wage (which varies by geographic location) across its operational sites. Compensation surpassing the local living wage improves employees' well-being and purchasing power, while shortfalls could lead to a decline in their quality of life, incurring additional compensation and prevention costs.	Numbeo cost of living database, Harvard Business School's Impact-Weighted Accounts (IWA), IFVI & VBA (2024)	**IRIS+ Metrics** OI4724：Employees Earning a Living Wage or Higher **UN SDGs**
Equal Opportunity Scope Global	• Salary structure data by gender	A study by Cortes & Pan (2018), demonstrated that occupational segregation by gender is a primary driver of wage disparities in the global labor market. According to the Women in Work 2024 study, despite the rising participation of women in the labor force, the gender pay gap continues to widen across most OECD countries, reflecting the persistent influence of workplace bias and systemic inequality. These disparities are further exacerbated when factoring in race and age (PwC UK, 2024). For female employees, unconscious bias often limits access to certain job types, resulting in restricted pay and benefits, slower career progression, and lower job satisfaction (Rothwell & Crabtree, 2019; Penner, 2008; Petersen & Morgan, 1995; Fernandez & Weinberg, 1997). As a result, TSMC adopted the Impact-Weighted Accounts methodology developed by Harvard Business School to analyze gender-based differences in salary structures by job category, measuring both the potential compensation costs arising from wage gaps driven by occupational segregation and the earning potential linked to gender-based opportunity advantages.	Harvard Business School's Impact-Weighted Accounts (IWA)	**IRIS+ Metrics** OI1855：Gender Wage Equity **UN SDGs**

Indicators	Activity Data	Analysis Methodology	Reference	International Framework Alignment
Training Benefits for Employees' Future Income Scope Global	• Permanent employees • Training hours • Average salary • Salary adjustment rate • Turnover rate	Enhancing employees' experience and skills is paramount for long-term business and career development. Not only does it boost productivity and revenue for the company, but it also strengthens employees' individual employability. This, in turn, leads to advantageous salary and compensation prospects during career transition or exploring new opportunities, improving quality of life, and bolstering purchasing power. It also contributes to increased tax revenue for the government further benefiting society. Drawing on the Value Balancing Alliance (VBA) methodology and considering factors such as employee salaries, training hours, salary adjustment rates, turnover rates, retirement age, and discount rates, TSMC estimated its social contribution resulting from the anticipated average annual salary growth in employees' careers, facilitated by the accumulation of experiences and skills through the Company's training resources.	VBA (2022)	**IRIS+ Metrics** OI7877：Employee Training Hours **UN SDGs** 4 QUALITY EDUCATION
Support for Life and Family Scope TAIWAN	• Statistics on benefits related to the TSMC Child Care Benefit Program	Studies indicate that family-friendly welfare systems significantly affect labor participation and income. The absence of gender-neutral family leave and childcare support results in gender disparities and wage loss for caregivers, disproportionately burdening female workers with family responsibilities and leading to adverse effects (Schochet, 2019; BLS, 2017; Glynn, 2018). TSMC, employing the Harvard Business School's Impact-Weighted Accounts (IWA) methodology, analyzed the economic support provided to employees through the various family-friendly benefits offered by the "TSMC Child Care Benefit Program."	Harvard Business School's Impact-Weighted Accounts (IWA)	**IRIS+ Metrics** OI2742：Employment Benefits **UN SDGs** 8 DECENT WORK AND ECONOMIC GROWTH
Employee Health Risk and Management Scope TAIWAN	• Statistics on employee health checkups and health management	According to the Ministry of Health and Welfare, cardiovascular diseases rank among the top three causes of death in Taiwan. Epidemiological studies indicate that factors such as hypertension, high cholesterol, diabetes, and obesity may contribute to cardiovascular diseases (Anderson et al., 1991). From a risk attribution perspective, TSMC actively promotes health management measures to address potential cardiovascular disease risks among employees, including hypertension, hyperlipidemia, hyperglycemia, and overweight. These initiatives assist employees in reducing their risk of developing cardiovascular diseases while preventing future medical cost expenditures.	World Health Organization (WHO, 2008), Lee (2010), Harvard Business School's Impact-Weighted Accounts (IWA)	**IRIS+ Metrics** OI4061：Healthcare Benefits Participants **UN SDGs** 3 GOOD HEALTH AND WELL-BEING
Sexual Harassment Scope Global	• Reported and verified cases of sexual harassment	Entitlement to a safe and equitable workplace is integral to the right to work, with sexual harassment constituting a breach of workers' fundamental rights and a manifestation of gender discrimination within professional settings (ILO, 2013). Sexual harassment encompasses both verbal and physical misconduct, resulting not only in psychological, physical, and financial harm to the victims but also in diminished overall productivity, heightened turnover rates, and tarnished corporate reputation (EEOC, 2016). Applying the Impact-Weighted Accounts (IWA) methodology pioneered by Harvard Business School, TSMC assessed the social costs associated with instances of sexual harassment among employees, factoring in medical expenses arising from the physical and psychological toll on employees, as well as the enduring repercussions on mental health leading to prospective losses of well-being.	Harvard Business School's Impact-Weighted Accounts (IWA)	**IRIS+ Metrics** OI9077：Number of Employee Grievances Resolved **UN SDGs** 5 GENDER EQUALITY

Indicators	Activity Data	Analysis Methodology	Reference	International Framework Alignment
Occupational Accidents Scope Global	• Occupational accidents involving employees and contractors	The social costs of occupational accidents include both financial and human costs (HSE, 2020). Financial costs comprise productivity losses, medical and rehabilitation expenses, administrative and legal fees, wages, and insurance compensation. Human costs refer to the value individuals are willing to pay to minimize the risk of occupational injury or fatality. Since productivity losses, wage compensation, and administrative and legal fees are already accounted for in the Company's financial statements, and workers' medical and rehabilitation expenses involve personal privacy, these are excluded from the calculations. TSMC's analysis of the social costs of occupational accidents focuses solely on human costs and insurance compensation. Fatal occupational accident takes into account years of potential life lost (YPLL) and work years of potential life lost (WYPLL), using the human capital approach to estimate the monetary value of labor production losses caused by fatalities (Tsao et al., 2013).	Health and Safety Executive (HSE, 2020), VBA's Impact Statement Methodology for Social and Economic Aspects (VBA, 2022), He (2005), and Tsao et al. (2013)	**IRIS+ Metrics** OI3757：Occupational Injuries OI6525：Occupational Fatalities **UN SDGs**
Value of Social Investments Scope Global	• Social investment value	TSMC utilizes the Business for Societal Impact (B4SI) framework for assessing community investments. This framework calculates the cash, materials, time, and management costs dedicated to philanthropic endeavors. It enables TSMC to evaluate and allocate the quantitative benefits of various projects. Additionally, the Company examines the depth (connection, improvement, change) and type (behavioral or attitudinal changes, skills or personal effectiveness, quality of life or well-being) of the impact of overall resource inputs on beneficiaries. This approach provides insights into the overall benefits derived from these investments.	Corporate citizenship (2020)	**IRIS+ Metrics** OI1619：Value of Community Development Contributions **UN SDGs**
Gross Value Added Scope Global	• Net profit (after taxes) • Depreciation and amortization • R&D expenditures • Taxes	Used Gross Value Added (GVA) to assess the difference between intermediate inputs and final outputs in TSMC's operational process, while considering the economic activities of original inputs and public expenditures that benefit different stakeholders.	VBA's Impact Statement Methodology for Social and Economic Aspects (VBA, 2022), Harvard Business School's Impact-Weighted Accounts (IWA)	**IRIS+ Metrics** FP1301：Net Income FP9573：Capital Expenditure FP5261：Payments to Government **UN SDGs**

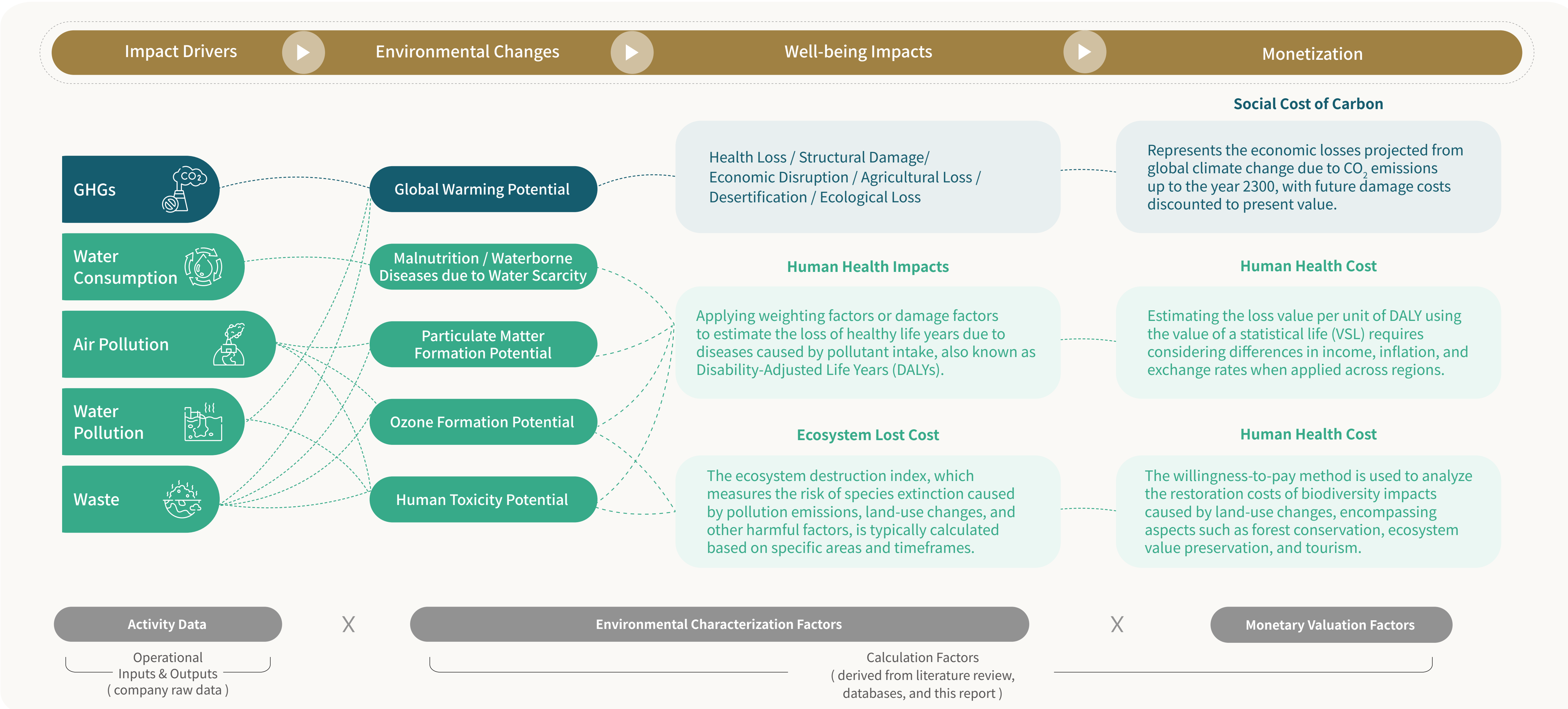
Indicators	Activity Data	Analysis Methodology	Reference	International Framework Alignment
Supply Chain Output Value Driven by TSMC Scope Global	• Supplier Procurement Payments	Based on supplier industry categories and locations, TSMC applies an Input-Output model to identify the impact of procurement spending on supply and demand across industries and quantify the resulting output value expansion effects. The model uses industry input-output tables developed by governments or research institutions and evaluates impacts based on actual industry supply and demand data. It reflects inter-industry linkages while demonstrating the contributions of corporate procurement to employment, wages, and regional economic development.	OECD Input-Output Tables (2025); Value Balancing Alliance (VBA) Extended Input-Output Analysis Model (VBA, 2021)	**IRIS+ Metrics** PI5478：Payments to Supplier **UN SDGs**
Supply Chain Employee Compensation Scope Global	• Payment for supplier procurement	The Input-Output Model was employed to account for all input factors involved in both the direct supplier production stage and the service processes and indirect upstream stage, based on their industry attributes and geographical locations. This model allocated resources by assessing shifts in final demand driven by TSMC's activities. It enabled the analysis of both direct and indirect resources across the industry supply chain to meet changes in final demand caused by TSMC's procurement. These changes include indirectly created employment opportunities and wage income for supply chain workers.	EXIOBASE 2 database, Value Balancing Alliance's (VBA) Extended Input-Output Model (VBA, 2021)	**IRIS+ Metrics** PI5478：Payments to Supplier Organizations: Total **UN SDGs**
Supply Chain Human Rights Risk Scope Global	• Payment for supplier procurement	The analysis is conducted based on the proportion of child labor and forced labor among workers in various countries' labor force statistics. The social externalities caused by employing child labor include the restoration costs for providing quality education for children not attending school and implementing additional components of reintegration programs for children, as well as compensation cost for the loss of future earnings when a child is prevented from attending school during youth. The social externalities caused by forced labor include the economic losses suffered by workers subjected to forced labor, the costs of reintegrating into society, and the costs of health damage.	United Nations International Children's Emergency Fund (UNICEF) database, Walk Free database, Impact-Weighted Accounts (IWA) methodology.	**IRIS+ Metrics** PI5478：Payments to Supplier Organizations: Total **UN SDGs**
Supply Chain GHG Emissions and Air Pollution Emissions Scope Global	• Payment for supplier procurement	From an EP&L perspective, TSMC assessed environmental externalities within the supply chain that were indirectly influenced by procurement spending, using environmentally extended input-output (EEIO) analysis. This evaluation encompassed the social cost of carbon (SCC) arising from GHG emissions, as well as the social costs associated with respiratory diseases and carcinogenic effects due to air pollutant emissions.	EXIOBASE 2 database, US EPA (2023), CE Delft (2018), OECD (2025), IFVI & VBA (2026)	**IRIS+ Metrics** PI5478：Payments to Supplier Organizations: Total **UN SDGs**

Indicators	Activity Data	Analysis Methodology	Reference	International Framework Alignment
Supply Chain Consultation on Water and Energy-saving and Waste Reduction Scope TAIWAN	• Differences in power consumption, water usage, and waste generation before and after supplier consultation	Within the EP&L framework, the Company assessed the environmental impacts mitigated by suppliers' energy conservation, water saving, and waste reduction efforts compared to the anticipated amounts set in the base year. This assessment included the avoidance of SCC associated with decreased energy consumption and waste incineration, as well as the health-related cost savings resulting from diminished risks of water scarcity and air pollutant emissions from waste incineration.	LC-Impact (2016), USEtox (2017), US EPA (2023), CE Delft (2018), OECD (2025), IFVI & VBA (2026)	**IRIS+ Metrics** OI6697：Energy Conserved OI4015：Water Conserved OI7920：Waste Reduced **UN SDGs** 6 CLEAN WATER AND SANITATION, 7 AFFORDABLE AND CLEAN ENERGY, 12 RESPONSIBLE CONSUMPTION AND PRODUCTION, 13 CLIMATE ACTION
Benefits of Energy Efficient Products Scope Global	• Revenue share of TSMC in high-performance computing, smartphones, Internet of Things (IoT), and automotive technology platforms	A 2009 study by the American Council for an Energy-Efficient Economy (ACEEE) found that U.S. electricity consumption in 2008 was 20% lower than in 1976. Leveraging this methodology, ISTI evaluated the correlation between global electricity consumption and electronic devices. The analysis concluded that semiconductor-based ICT products significantly contribute to global energy savings. Referring to research by the Global Semiconductor Alliance (GSA) and Oxford Economics, the ISTI calculated the contribution rate of semiconductors to the growth of end-use electronic devices. By applying TSMC's share of the global semiconductor market value, the institute gauged TSMC's potential contribution to global energy savings.	John, A. et al. (2009)、GeSI (2015)	**IRIS+ Metrics** PI7623：Energy Savings from Products Sold **UN SDGs** 13 CLIMATE ACTION

Overview of the EP&L Methodology

Environmental Profit and Loss (EP&L) assesses the impact of environmental changes arising from corporate value chain activities on human well-being. Based on welfare economics principles, EP&L measures the positive or negative well-being value associated with environmental changes using individuals' Willingness to Pay or Willingness to Accept compensation. TSMC applies the Impact Pathway approach to illustrate the causal relationships between its operations and environmental externalities, combining this with life cycle assessment. Working with academic institutions, the Company develops EP&L coefficients and methodology to analyze environmental impact across the value chain.

TSMC EP&L Analysis Model



The data used in the calculation process are divided into activity data, environmental characterization factors (CFs), and monetary valuation factors (VFs). Activity data comprise either raw data (primary data) sourced from TSMC or suppliers, or secondary data derived from databases. Environmental CFs and monetary VFs represent secondary data gleaned from peer-reviewed literature, databases, or this study. Environmental impact characterization factors (CFs) encompass both midpoint and endpoint CFs. Midpoint CFs refer to alterations in environmental conditions caused by resource consumption and pollutant emissions (e.g., increased concentration of particulate matter), while endpoint CFs reflect the effects of such environmental changes on human health and ecosystems, measured in Disability-Adjusted Life Years (DALYs) or Potentially Disappeared Fraction of species per square meter per year (PDF·m^2·yr). The monetary valuation coefficients include the "social cost of carbon," which measures the long-term economic damage caused by greenhouse gas emissions that contribute to global warming and climate change; the "human health loss cost," which represents the value of disability-adjusted life years lost due to impacts on human health from resource consumption and pollutant emissions; and the "ecosystem damage cost," which accounts for species extinction risks caused by pollutant emissions, land use changes, and other harmful factors.

Target	Activity Data (Input)	Activity Data (Output)	CFs	VFs
TSMC	◎	◎	○	○
Supply chain (hot spot analysis)	◎	○		
Critical Raw Material (life cycle assessment)	◎ / ○	◎ / ○		

◎ Primary Data (from inventory)
- Data on resource use and pollutant emissions in TSMC operations
- Data on TSMC's purchases (in NT$) in upstream procurements
- Data on material input, energy consumption, pollutant emissions, and transportation for the supplier's manufacturing process

○ Secondary Data (from databases and literature)
- Pollutant emissions data are derived from purchase amount by applying EEIOA, which are referenced from the EXIOBASE 2 database
- Data on material input, energy consumption, pollutant emissions, and transportation for all manufacturing stages of the supplier's raw material supply chain are referenced from the Ecoinvent database
- Midpoint and endpoint CFs are derived from this study or from reference sources such as ReCiPe (2017), LC-Impact (2016), UNEP/SETAC (2017), USEtox (2017), CML (2016), IPCC (2006) and Eco-indicator 99
- VFs referred to the US EPA (2023), OECD (2012), and PwC UK (2015)

Monetary Value Coefficient: Social Cost of Carbon

The Social Cost of Carbon references methodologies from the U.S. Environmental Protection Agency (US EPA, 2023), the International Foundation for Valuing Impacts, and the Value Balancing Alliance, estimating the long-term damage caused by the emission of one metric ton of greenhouse gases in a single year, based on 2023 U.S. dollar values. This research integrates four modules (socioeconomics and emissions, climate, damages, and discount rates), three damage functions (DSCIM, GIVE, and Meta-Analysis), and three discount rates (2.5%, 2%, and 1.5%) to estimate the economic losses caused by climate change. Key damages include temperature-related mortality, energy expenditure, labor productivity losses, and impacts on agriculture and coastal areas. The assessment considers future uncertainties and estimates damage impacts through 2100. As climate change intensifies and pressures on physical and economic systems increase, future carbon emissions are expected to result in greater incremental losses. However, current models do not yet fully capture all climate change impacts, including spillover and indirect effects.

Year	Social Cost of Carbon (USD/tCO_2)
2021	205
2022	223
2023	236
2024	239
2025	244

Monetary Valuation Factor : Cost of Human Health Loss

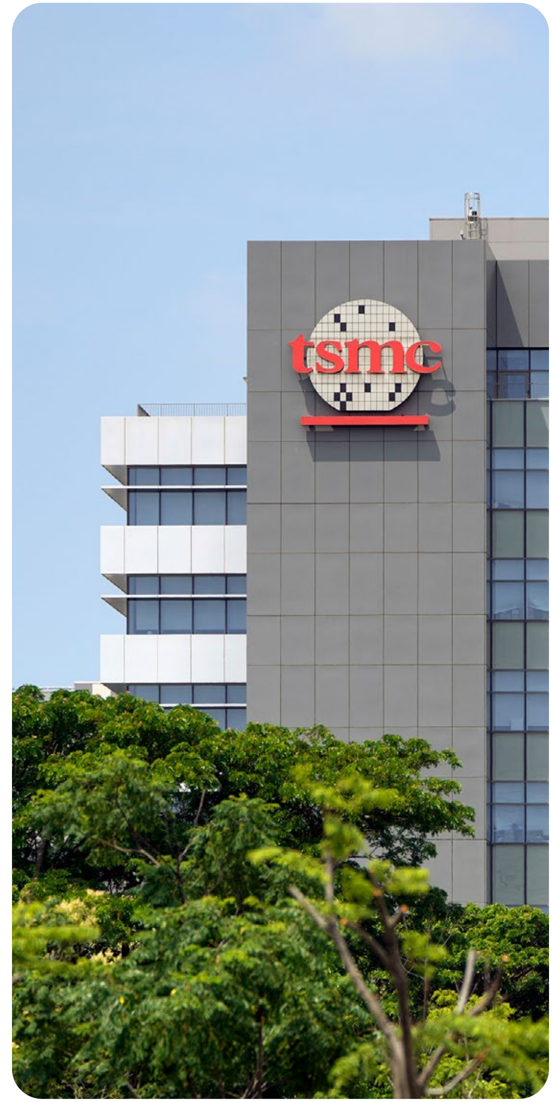
According to OECD research, the average value of a statistical life in member countries is USD 2.7 million. To convert the value of a full life into a single life year, IFVI & VBA (2026) calculated a remaining life expectancy of 31 years based on the 2022 global average life expectancy of 72.6 years minus the average respondent age of 41.6 years. This report divides the value of a statistical life by the remaining life expectancy to estimate the health loss cost per Disability-Adjusted Life Year (DALY) at USD 87,097.

Monetary Valuation Factor : Cost of Ecosystem Loss

CE Delft (2018) applied the Willingness to Pay approach to analyze the impact of land-use changes on biodiversity restoration costs, covering forest conservation, ecosystem service values, tourism, and other factors. Based on Kuik et al.'s (2004) research on the European region, which estimated a value of EUR 0.47 (2004)/PDF · m^2 · yr, CE Delft incorporated crop damage, an annual inflation rate of 1%, and a discount rate of 3% to adjust the valuation and convert the monetary value of ecosystem loss to EUR 0.635 (2015)/ PDF · m^2 · yr.

Monetary Valuation Factors Applied by TSMC

TSMC applies the Global Perspective proposed by IFVI & VBA (2026), using globally consistent monetary valuation factors. With 2023 as the base year, TSMC adjusts valuation factors from different time periods to base-year monetary values by considering inflation and exchange rate factors.



Valuation Factors	Before Adjustment	After Adjustment Note	References
Social Cost of Carbon	212 (Unit: 2020 USD / ton-CO^2)	7,588 (Unit: 2023 NTD / ton-CO^2)	US EPA (2023)
Cost of Human Health Loss	87,097 (Unit: 2022 USD / DALY)	2,891,024 (Unit: 2023 NTD / DALY)	OECD (2025)
Cost of Ecosystem Loss	0.635 (Unit: 2015 EUR / PDF.m^2.yr)	26.23 (Unit: 2023 NTD / PDF.m^2.yr)	CE Delft (2018)

Note : Adjusted values are uniformly expressed in New Taiwan dollar (NTD).

Independent Third Party Assurance Statement

DNV

INDEPENDENT ASSURANCE REPORT ON APPLYING AGREED-UPON PROCEDURES

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Date of Issue: 25 July, 2025
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DNV Business Assurance Co., Ltd. (hereafter "DNV" or "we/our") has been commissioned by the management of Taiwan Semiconductor Manufacturing Company Ltd. (hereafter "TSMC" or "the Company") to perform an independent assessment on the Company's 2024 Sustainability Impact Valuation Report based on the agreed-upon procedures as follow.

Scope of Assessment

Subject to our assessment was the 2024 Sustainability Impact Valuation Report prepared by TSMC in July 2025 (hereafter "the Report") based on the Company's self-devised valuation methodology, developed with reference to the principles and methodological approaches indicated in the following frameworks, which also form the basis of our assessment criteria, including:

- ISO 14008:2019 Monetary valuation of environmental impacts and related environmental aspects
- Natural Capital Protocol
- Social & Human Capital Protocol

The Report has been developed on the basis of the Company's Sustainability Report for the year ended December 31, 2024, which had undergone another independent assurance process. With the affinity between the two reports established to ensure materiality and consistency, the current engagement tested the transcription from the Company's Sustainability Report for the information disclosed without reevaluating such information. For information beyond the Company's 2024 Sustainability Report, we reviewed supporting evidence and documentation to verify its reliability.

Responsibilities and Independence

The management of TSMC has the sole responsibility for the preparation and presentation of the information in the Report, including the design, implementation, and maintenance of necessary internal control mechanisms related to ensuring the Report is free from material misstatement. The current engagement is also performed based on the assumption that the data and information provided by the Company to us as part of our review have been complete, accurate, sufficient and provided in good faith.

DNV is independent of TSMC and was not involved in the preparation of any statements or data included in the Report, except for this Assurance Report. We have no particular contractual or other affiliations that could lead to conflicts of interest against the current engagement under the established policies and procedures to ensure adherence to the independence principle.

In performing the current engagement, our responsibility and independent opinion are to the management of TSMC. Provided the consent that TSMC may refer to this Assurance Report under the agreed terms and conditions, DNV expressly disclaims liability or co-responsibility for any decision a person or an entity with potential access to this Assurance Report may make based on our opinion.

DNV

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Procedures

A multi-disciplinary team of sustainability and assurance specialists performed work at the Company's corporate level and covering relevant functions to obtain the supporting evidence necessary. We undertook the following agreed-upon procedures and activities to assess the Company's reporting as per the above-mentioned criteria:

- Conducting interviews with the senior management responsible for the oversight of sustainability issues and stakeholder engagement output to understand the considerations underpinning the goal and scope of the current valuation study.
- Reviewing the Report against the Company's self-devised valuation methodology, developed with reference to the principles and methodological approaches indicated in the above frameworks, including the integration of such elements.
- Interviewing personnel from the corporate functions relevant to the selected sustainability issues and data collection to assess the systems and processes for data preparation.
- Reviewing the documentation and analysis processes, including the selection of references and valuation factors, of the current valuation study and checking the data consolidation with the sampling principle applied.
- An independent assessment of the Report against the guiding principles of accuracy, completeness, consistency, credibility, relevance, and transparency.
- The current engagement was conducted based only on the Chinese version of the Report.

Inherent Limitations

This Assurance Report is based upon the application of the sampling principle and professional judgment on certain facts and assumptions, with resulting subjective interpretations. Professional judgments expressed herein are based upon the data made available to us at the moment of our engagement performed under the agreed scope of work as well as time and resource constraints.

Conclusion

It is DNV's opinion that based on the Company's reporting against the principles and methodological approaches indicated in the frameworks mentioned above, nothing has come to our attention that causes us to believe that relevant disclosures in the Report are unreliable. We can conclude that the Company's reporting against the self-devised valuation methodology and data gathered, analysed, and consolidated is reasonable and balanced as presented in the Report.

For and on behalf of DNV Business Assurance Co., Ltd. Taiwan

Lead Verifier
Yu Chung Chen

Reviewer / District Manager
David Hsieh

Place and date:
Taipei, 25 July, 2025

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