

# 2022 Climate and Environmental Report



# Table of Contents

## Introduction

<a href="#">About This Report</a>	03
<a href="#">Message from the Chairman and the President</a>	04
<a href="#">Climate-Related and Environmental Achievements</a>	06
<a href="#">Moving Toward Net Zero and Nature Positive</a>	07
<a href="#">Special Highlights</a>	08

## CH1 Governance

<a href="#">1.1 Climate and Natural Environment Vision</a>	12
<a href="#">1.2 Governance Structure</a>	13
<a href="#">1.3 Capacity Building &amp; Remuneration</a>	14
<a href="#">1.4 Governance Organization &amp; Talent Building</a>	15

## CH2 Strategy

<a href="#">2.1 Risks and Opportunity</a>	17
<a href="#">2.2 Opportunity Identification</a>	18
<a href="#">2.3 Financial Plan and Response Strategy</a>	19
<a href="#">2.4 Phase-out of Coal and Unconventional Oil &amp; Gas</a>	20

## CH3 Risk Management

<a href="#">3.1 Risk Identification</a>	22
<a href="#">3.2 Impact Assessment</a>	23
<a href="#">3.3 Risk Management Procedure</a>	24
<a href="#">3.4 High Climate and Environmental Risk Management</a>	25
<a href="#">3.5 Applying Differential Managements of Industries</a>	29
<a href="#">3.6 Scenario Analysis</a>	30
<a href="#">3.7 Risk Management Measures</a>	40

## CH4 Business Operations Integration

<a href="#">4.1 Corporate Banking</a>	42
<a href="#">4.2 Consumer Banking</a>	45
<a href="#">4.3 Credit Card</a>	49
<a href="#">4.4 Investing</a>	50
<a href="#">4.5 FinTech and Innovation</a>	51
<a href="#">4.6 Operation Management Measures</a>	53
<a href="#">4.7 Natural Environment and Biodiversity Preservation</a>	58

## CH5 Towards a Beautiful Future

<a href="#">5.1 E.SUN Carbon Emissions Structure</a>	65
<a href="#">5.2 Portfolio Emissions Analysis</a>	66
<a href="#">5.3 Our path to Net-Zero by 2050</a>	67
<a href="#">5.4 Empower Finance to Accelerate Sustainability</a>	68

## CH6 Conclusion

<a href="#">6.1 Conclusion</a>	70
--------------------------------	----

## Appendix

<a href="#">Appendix I TCFD Disclosure Recommendations</a>	72
<a href="#">Appendix II TNFD Disclosure Recommendations</a>	73
<a href="#">Appendix III Financed Emissions Structure</a>	74
<a href="#">Appendix IV TCFD Conformity Statement</a>	75
<a href="#">Appendix V Independent Auditors' Limited Assurance Report</a>	76

# About This Report

E.SUN Financial Holding Co., Ltd. (E.SUN FHC / E.SUN) appreciates your attention to our Climate and Environmental Report. E.SUN has long been committed to promoting and advancing climate change and the natural environment. This report follows the Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) and the Taskforce on Nature-related Financial Disclosures (TNFD) to provide disclosure on climate-related and nature-related financial information. This report has also been checked for TCFD conformity by BSI and has achieved the highest level of "Level 5+: Excellence." Our financed emissions has been verified by, PwC, demonstrating our commitment to enhancing the transparency and rigor of information disclosure in accordance with international standards.

Assessing the dependencies, impacts, risks, and opportunities of nature and biodiversity is an unfamiliar and challenging area for most companies. However, protecting biodiversity and the natural environment is urgent and requires early action to mitigate irreversible damage. E.SUN signed up as an Early Adopter of TNFD in 2023, hoping to lead by example and influence more stakeholders. Just as the theme of New York Climate Week, "We can. We will," although the challenges are daunting, E.SUN will work together with like-minded partners to strive towards net-zero emissions and a nature-positive future.



# Message from the Chairman and the President

*A good ESG strategy makes a great corporate strategy.*

*We pursue the well-being of the environment, society, and the company from a macro perspective and a humble attitude.*

*We are committed to overcoming the three challenges of overall performance, corporate social responsibility, and sustainable development, making E.SUN, Taiwan, and the world a better place.*



## Stronger Willpower Needed in Turbulent Times

With the ongoing international turmoil, trade wars, and technology competition between the United States and China, as well as regional political instability, including the unresolved Russo-Ukrainian conflict and the resurfacing of the Israel-Palestine conflict, coupled with intensified extreme weather events and social unrest caused by high inflation, stronger willpower is needed from individuals, companies, and society.

A good ESG strategy makes a great corporate strategy. At E.SUN, the Board of Directors and the management team are highly committed to sustainability. In 2022, of the seven board meetings held, ESG issues were included in the agenda for five of them. Major ESG themes were linked to the management team's

performance goals, and sustainable initiatives were continued in a disciplined manner. For example, in 2022, E.SUN introduced a natural environmental assessment methodology for investment and financing assets and released the first "Climate and Environmental Report" by integrating the Task Force on Climate-related Financial Disclosures (TCFD) and the Taskforce on Nature-related Financial Disclosures (TNFD). Our work was recognized by the TNFD organization and included in the TNFD draft guidelines.

To expand positive impact, E.SUN has called for the "E.SUN ESG Sustainability Initiative" for the third consecutive year in 2023, with nearly 160 entrepreneurs participating, including high-quality companies from Taiwan and abroad, industry leaders, key component suppliers, and experienced consulting companies in the field of sustainability. It encourages companies to adopt energy-saving or carbon reduction measures to manage greenhouse gas emissions and jointly strive for net-zero emissions by 2050, enhancing Taiwan's sustainability competitiveness. President Tsai Ing-wen also attended the event and wrote a blessing card with the message "A better Taiwan to the World" demonstrating the commitment and expectations for sustainable development and acknowledging the increasing number of like-minded companies joining the ESG advocacy.

## Public-Private Cooperation to Find New Climate Solutions

In the face of the unavoidable climate crisis, countries worldwide have taken action. For example, the European Union has started implementing the Carbon Border Adjustment Mechanism, and the United States has invested over \$360 billion in green energy investment projects. Taiwan's Executive Yuan elevated the Environmental Protection Administration to the Ministry of Environment in 2023 and established the Climate Change Administration and the Carbon Solution Exchange to address climate change and greenhouse gas reduction work and incorporate carbon emission reporting, carbon tax implementation, and carbon rights trading into plans in conjunction with the "Climate Change Response Act" and related regulations.

In addition to the public sector's large-scale actions, E.SUN actively cooperates with the public and private sectors. For example, we responded to the "Green Finance Action Plan 3.0" by serving as the convener of the "Financial Industry Net-Zero Transformation Platform - Policy and Guidelines Working Group," which coordinates the development of "Financial Carbon Emissions Calculation Guidelines" and "Decarbonization Target Setting and Strategy Planning Guidelines" to promote the transformation of the entire Taiwanese financial industry towards net-zero emissions. E.SUN

also organized financial carbon assessments and decarbonization goal-setting workshops, inviting speakers such as Tiange Wei, the Asia-Pacific Regional Lead of the Partnership for Carbon Accounting Financials (PCAF), and Howard Shih, the SBTi (Science-Based Targets Initiative) Technical Manager, for nearly 20 representatives from financial institutions to exchange practical practices and strategies for financial carbon assessments and decarbonization targets, accelerate the implementation of standards, expert dialogues, and experience sharing, and expand the financial industry's influence.

Furthermore, ESUN continues to integrate net-zero measures into our own operations and product services. This includes being the first to obtain LEED Zero Energy and LEED Zero Carbon certifications for its headquarters building and setting up three net-zero demonstration branches in Chiayi, Daya, and Toufen. In terms of products, E.SUN has issued a total of 4.8 million carbon-neutral credit cards and became the first financial institution in Taiwan to have its ATMs certified with ISO 14067 carbon footprint and PAS 2060 carbon neutralization, demonstrating its commitment to the net-zero pathway in various aspects.

### Safeguarding not only customers' assets but also nature's assets

In addition to relying on innovative technologies, climate issues, and conservation efforts also rely on ecosystem services. More and more organizations, including the United Nations and the Network for Greening the Financial System, have released management frameworks to promote biodiversity development, covering endangered species conservation, forest protection, and nature positive, all of which are important biodiversity issues.

The UN recognized 2023 as the International Year of Millets. In 2022, E.SUN, in partnership with National Taiwan University, brought back 28 millet varieties from Xinyi Township, Nantou, from the US germplasm bank for cultivation in Taiwan. It also initiated a three-year "Millet Cultivation Revival Action Plan" in collaboration with National Taiwan University. Through the establishment of millet planting demonstration areas and workshops, the plan provided stable native millet germplasm and planting expertise to encourage more local residents to cultivate millet. The project will also work with schools and indigenous cultural experts to incorporate the traditions of millet rituals, ancient millet stories, millet farming methods, and such into the school curriculum, delivering the significance and value of millet to indigenous cultures, promoting species richness and sustainable inheritance of culture.

To further connect with financial services, E.SUN has developed the "Climate and Biodiversity Sustainability Linked Loans." In addition to tracking companies' greenhouse gas emission reduction outcomes, we have pioneered discussions with companies on the restoration of native tree species in Taiwan as a biodiversity indicator, encouraging companies to incorporate biodiversity sustainability into their corporate sustainable development strategies. By integrating Nature Positive into financial services, we aim to promote more customer awareness of biodiversity issues and further protect nature's assets.

### Strong in Faith, Fearless in Action

As civil rights leader Martin Luther King Jr. said, "If you can't fly, then run; if you can't run, then walk; if you can't walk, then crawl, but whatever you do, you have to keep moving forward." In the face of what can be considered the most complex transition project in human history,

we have no way to retreat, only the courage to continue forward. E.SUN will embrace hope and move forward with like-minded partners, working together to create a harmonious and beautiful home for nature.

Chairman,  
E.SUN FHC / E.SUN Bank

President,  
E.SUN FHC

# Climate-Related and Environmental Achievements

## Targets

**Net zero 2050**  
according to 1.5°C SBT standards

**Complete phase out of coal related industries** by 2035

**42 % Reduction in carbon footprint of operation by 2030**  
using 2020 as a baseline

Green Loan balance totaling  
**NT\$70 billion** by 2025

Sustainable bond balance totaling  
**NT\$32 billion** by 2025

## 2023 Achievement Highlights

Green loan balance  
**NT\$65.6 billion**

Sustainability-linked loan balance  
**NT\$51.5 billion**

Sustainability bonds underwriting balance  
**NT\$24.6 billion**

Sustainable bond balance  
**NT\$28 billion**

Sustainable bond issuance  
**NT\$20.9 billion**

Hedging and consultation services for sustainability-related projects  
**NT\$23.6 billion**

**46 %** of our buildings Green certified

**AAA**  
MSCI ESG Risk rating

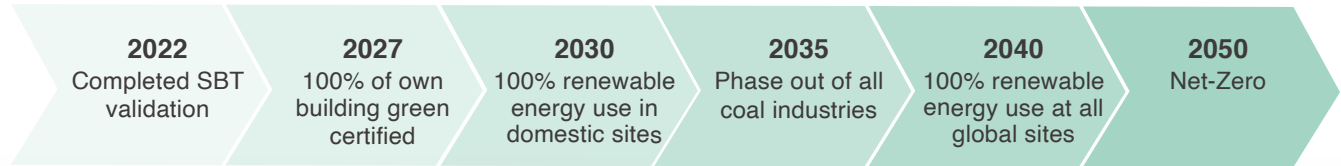
Listed in DJSI sustainability index in the past **10 years**

**Coalition of Movers and Shakers on Sustainable Finance**  
One of six sustainable financial institutions appointed by the Financial Supervisory Commission

# Moving Toward Net Zero and Nature Positive

GRI : 2-23、2-24、2-25、3-3

E.SUN continues to follow the TCFD (Task Force on Climate-related Financial Disclosures) framework: Governance, Strategies, Risk Management, and Metrics & Targets to disclose climate-related information. We have set comprehensive coal "phase out" goals by 2035 and net zero by 2050, using a scientific approach and robust risk management to move us steadily towards our net-zero target.



## Initiatives Joined

### 2014

Became the first financial institution in Taiwan included in DJSI

### 2015

Adopted the Equator Principles

### 2017

Became the first Taiwanese signatory of TCFD

### 2022

- Became the first FI in Taiwan to receive validation of Science Based Targets (SBT)
- Joined TNFD, RE 100, PCAF
- Appointed by the FSC as a member of Movers and Shakers on Sustainable Finance

### 2023

- Joined the Partnership for Biodiversity Accounting Financials (PBAF)
- Became first batch of TNFD Early Adopters

## E.SUN's Climate and Environmental Actions

### 2019

- Quantified transition risk of fossil-fuel industry
- Stopped providing project financing to coal-fired power plants
- Issued carbon-neutral credit cards

### 2018

Conducted business review and risk identification based on climate change

### 2017

Established climate change management mechanisms and set up a working team

### 2021

- Set net-zero emissions by 2050 goal
- Established sustainable finance policy
- Launched E.SUN ESG and Sustainability Initiative

### 2020

- Expanded measurement of the impact of high-climate risk industries
- Compiled GHG inventory for finance and investment portfolio

### 2022

- Established climate-related and environmental risk management policy, enhancing its capacity
- Expanded E.SUN ESG Sustainability initiative to over 100 outstanding enterprises
- Combined TCFD and TNFD frameworks to publish the Climate and Environmental Report

### 2023

- Established physical and transition risk database, strengthening risk detection
- Further expanded E.SUN ESG Sustainability initiative to 157 outstanding enterprises

# From Promise to Practice, Giving the World a Better Taiwan

## *E.SUN Joins with ESG Initiative Partners to Work Towards Net-Zero Sustainability*

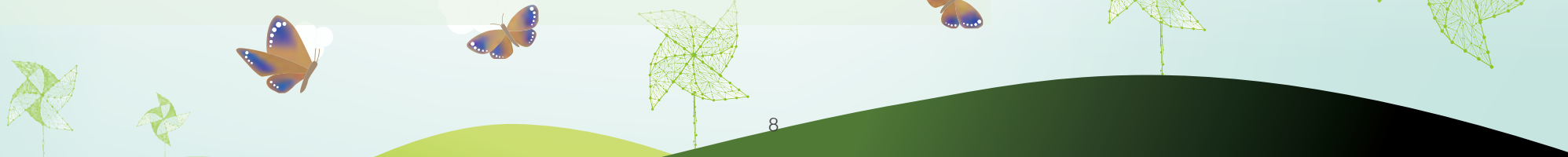
"E.SUN ESG Sustainability Initiative" was launched by E.SUN in collaboration with 32 like-minded corporate partners in 2021. It aims to implement ESG principles and actions actively through collective advocacy. In 2022, it received an enthusiastic response from a total of 101 influential companies, including industry leaders and hidden champions, who committed to a challenging goal of reducing carbon emissions by at least 1.57 million metric tons by 2025. In 2023, participating businesses in the initiative increased to 157, including leading companies from Taiwan and overseas, such as global top 10 market leaders, key component suppliers, and expert consultants in sustainable Net-Zero. E.SUN leverages its financial expertise with a sustainable mindset to have a more significant positive impact, assisting businesses in "different industries" and "different stages" to clarify their sustainability issues. We collaborate with a team of consultants to provide tailored, sustainable financial service solutions, implementing concrete actions to control greenhouse gas emissions and mitigate environmental impacts. Together, we strive towards the net-zero emission goal by 2050, enhancing Taiwan's competitiveness in sustainable industries. E.SUN is honored to invite President Tsai Ing-wen to attend the 2023 Sustainability Initiative, where she wrote and hung a blessing card, symbolizing the aspiration and determination to accelerate the net-zero transition process and implement sustainable development.

## *E.SUN Joins TNFD Early Adopters and PBAF*

In response to climate change and the complex and ever-changing environment, E.SUN has actively responded to international initiatives. In 2023, E.SUN signed on to become the Taskforce on Nature-related Finance Disclosures' (TNFD) Early Adopter, joining the inaugural group of financial institutions pledging to follow TNFD's disclosure framework for their financial year 2024 reporting. E.SUN also joined the Partnership for Biodiversity Accounting Financials (PBAF) to enhance its eco-friendly financial products and services, following global standards and developing relevant tools and methodologies. E.SUN is committed to the sustainable development of the environment and aiding our customers' green transition through the power of finance.



**ESG 永續倡議行動**  
150+ Create a better future



# Marching into COP28, E.SUN's Team Travels to Dubai to Amplify Taiwan's Voice

*From Promise to Progress, Utilizing the Power of Finance*

## Unite, Act, Deliver

The 28th Conference of the Parties (COP28) of the UNFCCC was held in Dubai, UAE in 2023. With a rich Arabic cultural heritage and modern innovations, it embraces contemporary and traditional aspects. Dubai's openness to change is evident at the COP28 conference, which includes the first-ever "Global Stocktake", the establishment of the Loss and Damage Fund, and the pioneering Women and Gender Pavilion.

While change is the first step, we must face the gap between our current state and climate goals. The climate actions of the world have fallen short, and the issue of fossil fuel phase-out still needs to be solved. The urgency for international and cross-sector collaboration is increasing. This year's theme, "Unite, Act, Deliver," emphasizes the need for countries to set aside differences and build consensus to overcome the challenges of climate change.

## Combining Sustainability and Finance, Breaking Barriers, E.SUN Actively Makes Taiwan's Voice Heard

Taiwan is not a signatory to the COP. Despite this, Taiwanese companies and NGOs spared no effort in actively contributing to climate diplomacy and ensuring Taiwan's voice was heard. This year, Mr. Joseph Huang, Chairman of E.SUN FHC, was invited for the second time to speak at the World Climate Summit, the largest forum held alongside the COP. He delivered a speech titled "How Sustainability is Reshaping Taiwan's Financial Market,"

sharing with the international community how sustainability is transforming the boundaries of the financial sector, extending from traditional financial services to global climate issues. Funding and markets must exert influence, and we hope that Taiwanese companies will take on more roles on the international stage in the future.

## Sustainability New Trends, from Climate to Social Impact

Sustainability is no longer limited to climate issues. E.SUN discovered the importance of the Social Agenda through the BCG keynote speech and exchanges with the international banking industry. Although challenges are still ahead, experts are optimistic about its future as an opportunity. E.SUN understands that to realize social justice, the three major categories of social issues, namely employees, customers, and society, are all indispensable. E.SUN will continue to develop impactful social strategies, integrate climate and social issues, and demonstrate its commitment to corporate social responsibility. We will uphold the core values of diversity, equity, and inclusion (DEI) and address global issues and just transitions.

Sustainability has become a new global language. As E.SUN enters its fourth decade, its presence at COP holds significant meaning. "The more we do, the more we can do!" Together, we can initiate a positive, sustainable cycle for Taiwan's future generations.



# Banking for Nature, Preserving the Natural Wealth of the Earth

*Protecting the wealth of our customers and nature*

## Cross-border exchanges promote and accelerate nature-positive investment

The 15th Climate Week NYC and World Biodiversity Summit (WBS) was held in New York in 2023. Louis L.Y. Chang, the Chief Sustainability Officer (CSO) of E.SUN Financial Holdings, was invited to attend and deliver a keynote speech titled "Banking for Nature, Preserving the Natural Wealth of the Earth." He shared how E.SUN integrates its core financial business to encourage customers to protect the environment and promote biodiversity. Mr. Chang also engaged in dialogues and exchange experiences with representatives from various public and private sectors and NGOs from around the world, which has received positive responses.

Climate Week NYC is an annual event held in September in New York by The Climate Group. It includes over a hundred climate-related activities and seminars. Coinciding with the UN General Assembly, its purpose is to gather global policymakers, international organizations, private enterprises, and others involved in climate and sustainability policies. Through cross-border and interdisciplinary exchanges, the event aims to drive a sustainable global transition collectively. In addition, the World Biodiversity Summit, which takes place during Climate Week, focuses on nature conservation. The theme of this summit is "Catalysing Nature-Positive Investments Through Public-Private Partnerships." It invites COP28 ambassador and President of the International Union for Conservation of Nature, H.E. Razan Al Mubarak, to deliver the opening speech. The summit calls on businesses to follow international guidelines on nature risk disclosures, set biodiversity growth goals, emphasize the need to accelerate nature-positive investments in the capital market, and develop decarbonization solutions with nature-based solutions at their core. These topics were also included in this year's COP28.



## Natural resources are valuable assets for humanity, requiring proper care and use

Louis Chang, CSO of E.SUN Financial Holdings, pointed out that Taiwan is an island with abundant biodiversity, but it faces the triple challenge of balancing biodiversity, climate transformation, and economic development. Collecting more comprehensive biological observation data and leveraging the capabilities of public-private partnerships and non-profit organizations to apply expertise and seek innovative solutions will be the key to achieving nature-positive. In addition to promoting environmental protection through sustainability linked loans, E.SUN will further enhance its ability to assess nature opportunities and risks, develop biodiversity finance, and exert significant influence in safeguarding our beautiful home.

# CH1 Governance

1.1 Climate and Natural Environment Vision

1.2 Governance Structure

1.3 Capacity Building & Remuneration

1.4 Governance Organization & Talent Building

# 1.1 Climate and Natural Environment Vision

E.SUN has made a promise to this land since its founding and embraced the vision of becoming a world-class corporate citizen. We are determined to become the best-performing and most respected enterprise. E.SUN is committed to moving towards net-zero emissions and nature-positive development, aligning with the frameworks proposed by TCFD and TNFD, and taking corresponding actions internally.



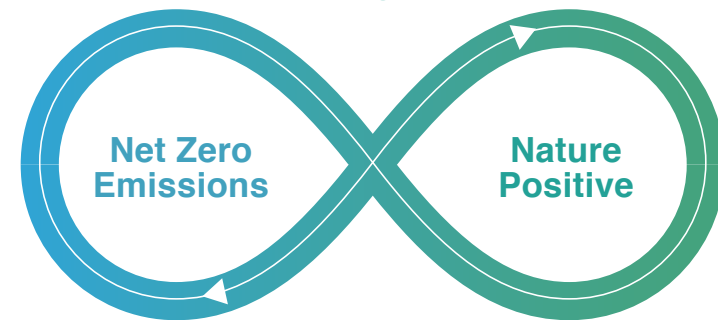
*"Sustainability is our common future. To mitigate climate change and live in harmony with nature, we must be innovative, have forward-looking planning, and strong execution. E.SUN is committed to deepening sustainable financial services, not only protecting the wealth of customers but also safeguarding precious natural assets. "*

*~ Louis L.Y. Chang, CSO*

## Vision

*E.SUN's employees become world-class citizens,  
E.SUN becomes a world-class corporate citizen.*

## Target



## Action Plan



### 1. Positive Impact - Leverage Financial Influence

- Finance Transition
- Sustainable Operation
- Establish Partnerships



### 2. Sustainable Innovation - Innovative Finance Models

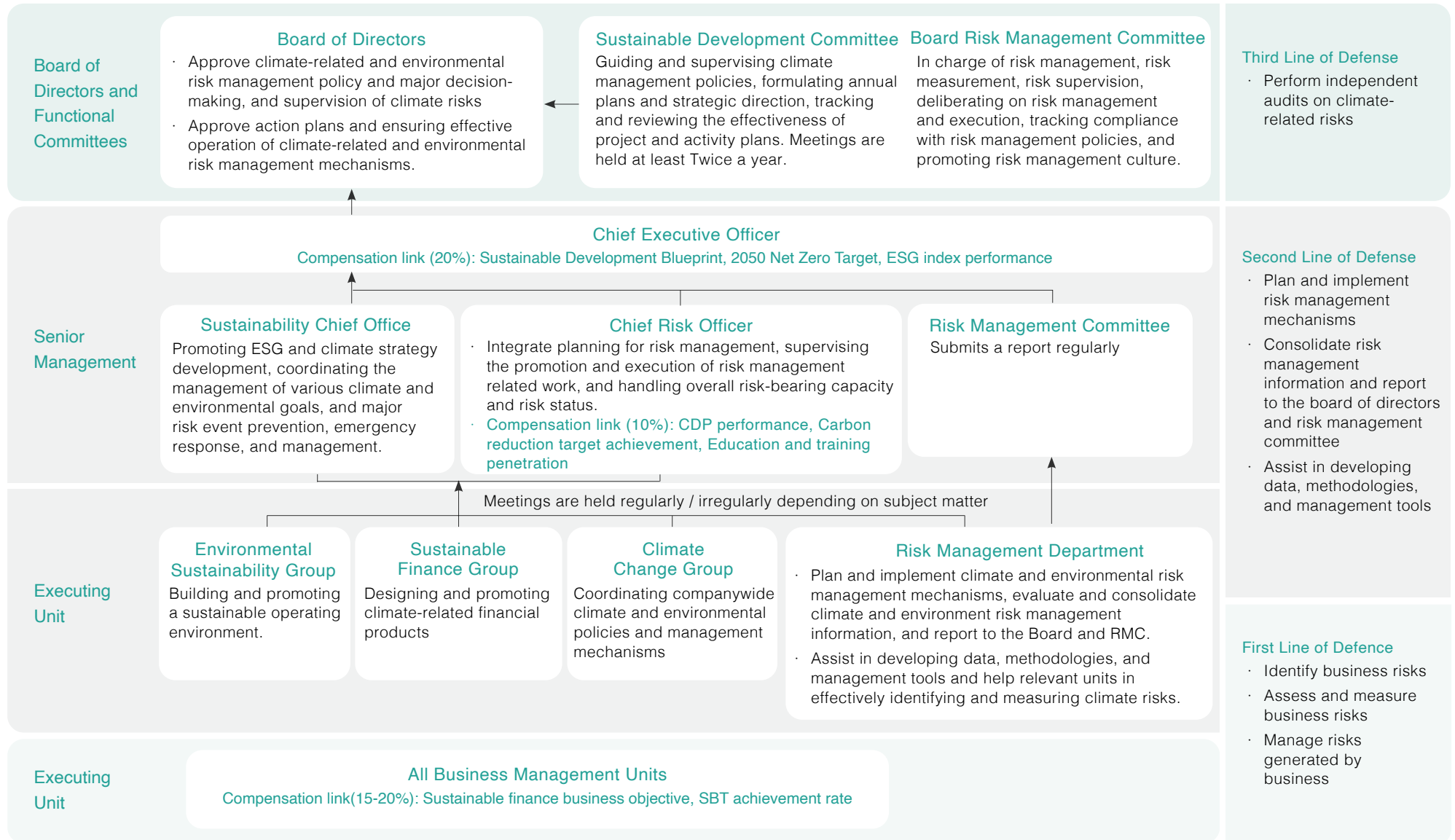
- Develop Green Products and Services
- Cultivate Talent
- Improve Process Intelligence



### 3. Resilient Organization - Build Resilience

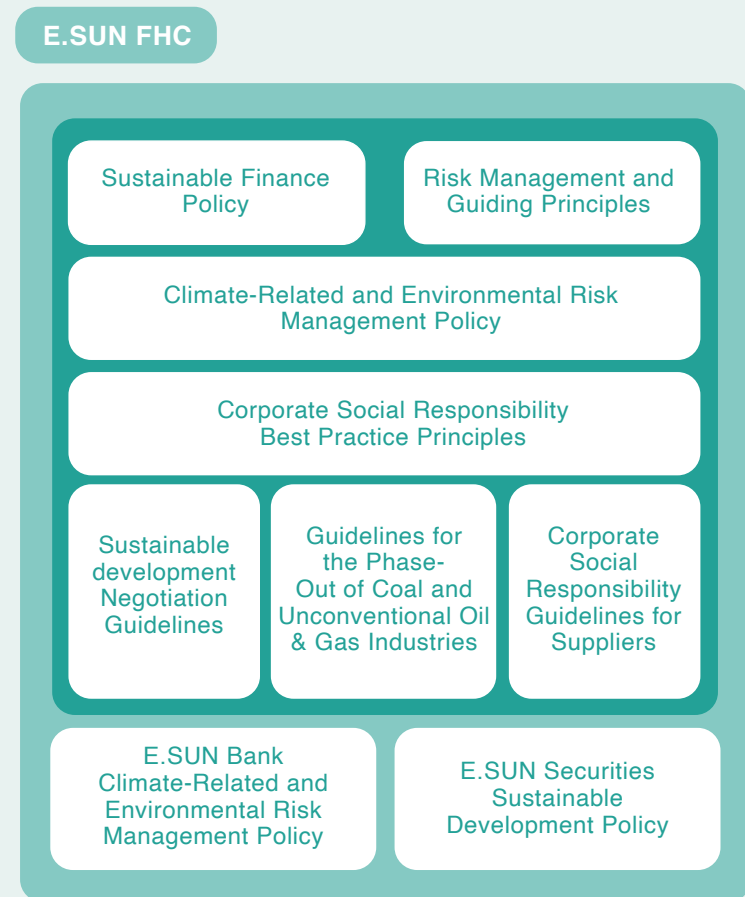
- Align with International Practices
- Enhance Scenario Analysis
- Enhance Operation Resiliency

# 1.2 Governance Structure



# 1.3 Capacity Building & Remuneration

In our quest to better incorporate climate and environmental issues into our corporate strategy, management structure, and operation process, E.SUN has appointed a sustainable development committee and related task forces at the board level and became the first financial institution to appoint a Chief Sustainability Officer. E.SUN puts its climate and environment culture into practice starting at the governing level, drawing out a long-term sustainable development blueprint and cultivating green finance talents from within. We combine ESG and climate and environment into our development strategy to apply in internal decision-making, management processes, and operational scopes.



### Establish a climate and environmental management culture

- Established sustainable development committee with the chairman as convener<sup>1</sup>
- Establish climate and environment related policies and procedures, and regularly report on progress
- Arrangement of annual Climate and Sustainability education training for the Board members and Senior Management to facilitate management in understanding latest climate trends<sup>2</sup>



### Cultivate climate and environmental finance specialists

- The expertise allocation in climate and environmental finance includes about 40 people, including Sustainable Finance, Climate Change, and Environmental Sustainability groups
- Collaborated with TAISE to hold "The 2nd Sustainable Finance Manager Development Program" to enhance ESG and climate-related skills, with 155 employees in total participating
- Internal education and training incorporates ESG-related issues, and climate and environmental risk management is introduced into the orientation program. Additionally, environmental consensus is achieved through online courses and monthly education materials
- Members of related project teams are certified for ISO 14064 -1,2,3, ISO 14067, PAS 2060, SCR\*, CFA ESG<sup>3</sup>



### Enhance climate and environmental risk assessment skills

- Cooperated with consultants to introduce skills related to climate and environment, and established transition risk and physical risk database
- E.SUN is the first financial institution in Taiwan and the second financial institution in Asia to complete the SBT review
- E.SUN joined PCAF and adopted its methodology to evaluate financed emissions

Note 1: For information on climate related government results for the Board and senior management, please see E.SUN FHC 2022 Annual Report pg37-43

2: For information on climate related education training for the Board and senior management, please see E.SUN FHC 2022 Annual Report pg47-49

3: SCR\*, Sustainability and Climate Risk. CFA ESG\*, Certificate in ESG Investing

## 1.4 Governance Organization & Talent Building

### Governance Responsibilities

E.SUN Financial Holdings established the Sustainable Development Committee in 2021. The committee serves as the dedicated unit for the company's sustainable development and reports on ESG-related strategies and implementation effectiveness to the board of directors at least twice a year. The committee comprises all directors, including three independent directors, and is chaired by the Chairman. In response to the need for sustainable development, E.SUN established the Chief Sustainability Officer (CSO) position in 2022. Former president Magi Chen was appointed as the first CSO, and in 2023, Senior Executive Vice President Louis L.Y. Chang took over as the CSO and continues to promote sustainability through financial influence.

During the seven board meetings held in 2022, ESG issues were included in the agenda for five meetings. The agenda included: (1) Sustainable development blueprint and implementation status; (2) Concrete initiatives for sustainable development; (3) Policies and regulations related to sustainability; (4) Timetable for GHG inventory and verification; (5) Identification process and confirmation of major issues for E.SUN; (6) Progress reports on the execution of sustainability plans, etc. The board of directors actively participated in these discussions, reviewed the implementation progress, and had the management team make necessary adjustments.

In addition to planning courses on changes in internal and external environmental conditions and development needs, the board regularly provides information on various courses offered by professional development institutions, allowing directors to evaluate their own professional backgrounds and needs and arrange appropriate courses. This ensures that the directors faithfully carry out their duties and exercise their roles in making management decisions and providing leadership and supervision.

### Sustainable Talent Development at E.SUN

In 2022, as part of our commitment to reach net-zero emissions by 2050, we at E.SUN established a systematic talent development system to foster sustainable transformation. We collaborated with the Taiwan Institute for Sustainable Energy to design and organize the "1st Sustainable Financial Manager Development Program". This training, which consisted of 15 courses, covered topics such as sustainable finance, climate change, and sustainable supply chain management. All 73 participants from the first class successfully passed and became certified "Sustainable Financial Managers."

In 2023, E.SUN established a new sustainable formation, setting a dedicated core unit and co-organizing unit, to align the performance of these units with sustainability and accelerate the development of our ESG initiatives. To cultivate sustainable talents and enhance overall ESG expertise, E.SUN held the "2nd Sustainable Financial Manager Development Program" in October 2023. The curriculum was designed around four major themes: "Trends and Policies in Sustainable Finance," "Investment, Financing, Insurance, and Value Chains," "ESG Information Disclosure and Ratings," and "Climate Finance and Management Practices." E.SUN continues to systematically cultivate sustainable talents, aiming to become a benchmark enterprise in sustainability.



# CH2 Strategy

2.1 Risk and Opportunity

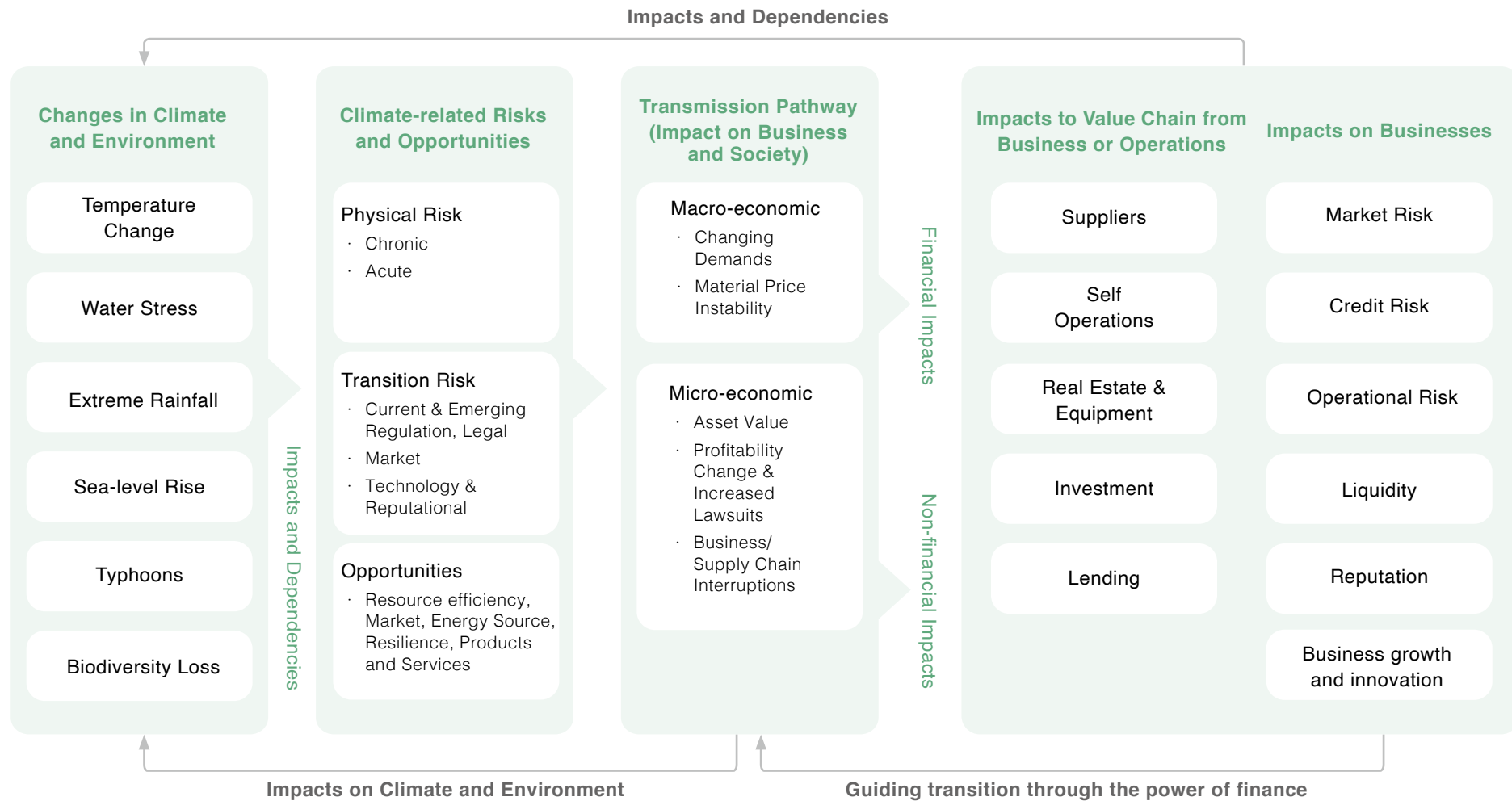
2.2 Opportunity Identification

2.3 Financial Plan and Response Strategy

2.4 Phase-out of Coal and Unconventional Oil & Gas

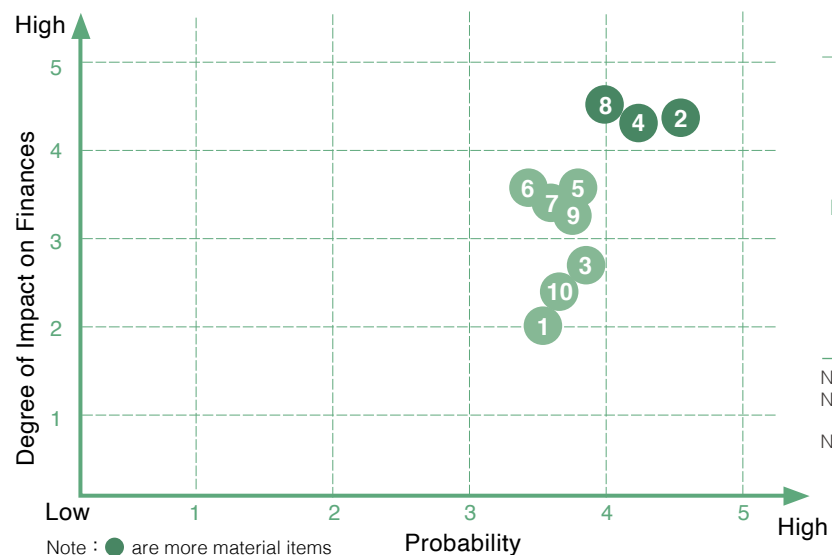
# 2.1 Risk and Opportunity

Financial institutions play a vital role in guiding enterprises through transition. E.SUN holds the concept of "Double Materiality" and tackles the risks and opportunities brought by climate change and strives to lower the negative impacts on the environment and society. We leverage the influence of finance to aid our customers in sustainable transition, joining together industry partners, government, and academia to build a better future for the environment.



## 2.2 Opportunity Identification

In addition to addressing climate risks, E.SUN actively seeks opportunities for climate transformation, as it is not only a challenge but also a process of creating business opportunities. The Taiwanese financial industry controls around NT\$100 trillion in funds, which can be utilized through investment or financing to accelerate the progress towards achieving net-zero emissions. The Ministry of Environment plans to impose carbon fees on high-emitting entities by 2025. Over the past two years, E.SUN has engaged with 150 corporate clients to understand their difficulties in sustainable transition. We established a Sustainable Transition Platform, inviting 11 consulting firms to provide assistance, including carbon inventory, preparation of ESG reports, and certifications. Many success cases have emerged from these efforts. The financial industry should exert a positive influence by directing funds towards environmentally friendly industries, such as green energy, electric vehicles, and sustainable agriculture. E.SUN actively supports and develops the strategies of regulatory authorities, providing financial services that help customers transition to low-carbon, and supporting the development of low-carbon technologies, creating the second growth curve of our green economy.



	Opportunity	Potential Financial Impact(s)	Impact Period
Resource Utilization Rate	1 Green and Low Carbon Operation	Green building and environmentally friendly measures to save water, energy, waste and costs	Medium
	2 Process Digitization	Invest in process digitalization to improve operational efficiency and reduce the consumption of natural resources and negative environmental impact	Short
Energy Sources	3 Renewable Energy Use	Use of renewable energy to reduce dependence on fossil fuels and the impact of carbon-related costs, and to reduce GHG emissions	Long
Products and Services	4 Promoting Green Finance	Develop green products and services, direct capital to sustainable areas, help customers transition and create business opportunities	Medium
	5 Digital Customer Service	Digitized and convenient financial services to enhance customer satisfaction and reduce service costs	Medium
Market	6 Corporate Sustainability Transition	Expand customer business through innovative green financial products	Medium
	7 Capital Market Participation	Increase financial asset diversification and explore sustainable investment/fundraising opportunities	Medium
Resilience	8 Increase Power of Finance	1. Enhance ESG performance, meet stakeholder expectations, and leveraging financial impact with sustainability partners	
	9 Talent Development	2. Nurture sustainable finance talents, enhance capacity to respond to climate change, and promote innovation through sustainability	Long
	10 Operational Resilience Management	3. Supply chain management and green procurement to raise operation resilience	

Note 1: Time frame definition, short-term is within 1 year, medium-term is between 1 to 10 years, and long-term is over 10 years  
 Note 2: Degree of impact assessment includes potential losses or cost increase, revenue growth margin, and percentage of affected employees..  
 Note 3: Credit products are categorized into short-term with a maturity of less than 1 year, medium-term is more than 1 year but less than 7 years, and long-term is more than 7 years. Mortgage loans are mainly products with a 30-year maturity period, while corporate finance provides suitable products according to customers' needs. The product strategy is based on a 5-10 year cyclical cycle, during which the frequency of management is done annually, and is adjusted depending on management needs.

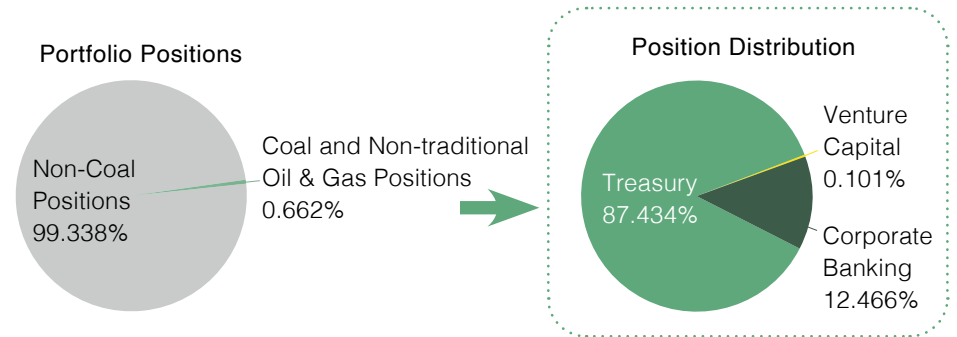
## 2.3 Financial Plan and Response Strategy

By identifying internal and external significant opportunities related to the climate and environment, E.SUN formulates climate strategies and actions concerning operations, business, products, and financial planning and sets annual and long-term financial performance goals for climate-related financial products (see P.67 for details) to enhance revenue and asset allocation. We also improve internal operational efficiency and reduce human resources costs through digitized green service processes.

Benchmarking	Material Opportunities	Internal Strategies and Objectives	Current Actions and Outcomes
<ul style="list-style-type: none"> <li>Paris Agreement</li> <li>Taiwan 2050 Net-zero Emissions Pathway</li> <li>Taiwan Green Finance Action Plan</li> <li>Corporate Governance 3.0 – Sustainable Development Blueprint</li> <li>SBTi Science-based Carbon Reduction Targets</li> <li>Principles for Responsible Investment (PRI)</li> <li>Principles for Responsible Banking (PRB)</li> <li>TCFD</li> <li>TNFD</li> </ul>	<ul style="list-style-type: none"> <li><b>1</b> Green and Low Carbon Operation</li> <li><b>2</b> Process Digitization</li> </ul>	<ul style="list-style-type: none"> <li>Reducing absolute carbon emissions of Scopes 1&amp;2 by 42% by 2030 compared to the 2020 baseline</li> <li>By 2025, reduce water consumption by 20%, waste by 56%</li> <li>By 2025, reduce carbon emission by revenue by 25%</li> <li>By 2040, 100% renewable energy use at all operating sites of E.SUN</li> </ul>	<ul style="list-style-type: none"> <li>Establish rainwater recycling and water-saving devices, promote proper water-saving concepts and conserve water resources.</li> <li>Implement waste sorting, recycling, and reuse management, and promote paperless operations.</li> <li>Replace high-energy consuming air-conditioners and lighting equipment.</li> <li>Introduce ISO 50001 to strengthen energy management.</li> <li>Purchase green electricity and install solar panels on E.SUN-owned buildings to increase the proportion of renewable energy use.</li> </ul>
	<ul style="list-style-type: none"> <li><b>3</b> Renewable Energy Use</li> </ul>	<ul style="list-style-type: none"> <li>By 2030, E.SUN aims to be the sustainable partner for enterprises and the best sustainable partner for customers</li> </ul>	<ul style="list-style-type: none"> <li>Support customers with positive impact on the environment and society, including green projects such as renewable energy and enterprises with clear ESG development objectives, etc.</li> </ul>
	<ul style="list-style-type: none"> <li><b>4</b> Promoting Green Finance</li> <li><b>5</b> Digital Customer Service</li> </ul>	<ul style="list-style-type: none"> <li>Continue to deepen scope and scale of green products in-line with Taiwan's 2050 net-zero emissions pathway and strategies.</li> <li>100 Billion NTD in green loans target by 2030</li> </ul>	<ul style="list-style-type: none"> <li>Leverage the positive impact of finance and deepen relationships with customers and sustainability partners through partnerships, ESG sustainability initiatives and consulting services.</li> </ul>
	<ul style="list-style-type: none"> <li><b>6</b> Corporate Sustainability Transition</li> <li><b>7</b> Capital Market Participation</li> </ul>	<ul style="list-style-type: none"> <li>Sustainability Linked Loans accounts for 13% of all corporate loans target by 2030</li> </ul>	<ul style="list-style-type: none"> <li>Establish management structures, revise internal climate change-related regulations, integrate into daily operations and business development, and enhance risk and opportunity management capabilities.</li> </ul>
	<ul style="list-style-type: none"> <li><b>8</b> Increase Power of Finance</li> <li><b>9</b> Talent Development</li> <li><b>10</b> Operational Resilience Management</li> </ul>	<ul style="list-style-type: none"> <li>Benchmark international standards (such as CDP, DJSI, etc.) and continuously improve, reaching net-zero emissions by 2050</li> <li>Actively participate in government and international organizations' sustainable and climate change-related initiatives to strengthen climate change response capabilities</li> <li>Collaborate with TAISE to establish a Sustainable Finance Manager certification to enhance ESG and climate-related skills</li> <li>Internal education and training incorporates ESG-related issues, and climate risk management training is introduced into the orientation program.</li> </ul>	<ul style="list-style-type: none"> <li>Participate in regulatory and industry association climate-related projects to help formulate related regulations, such as Taiwan's sustainable classification standards, banking association climate change risk management projects, and climate stress test projects etc.</li> <li>Cultivate in-house sustainability and climate talent, and plan to subsidize relevant certifications.</li> <li>Improve mitigation capabilities by obtaining green building certifications on new constructions, building enhancements, and through operations management.</li> </ul>

## 2.4 Phase-out of Coal and Unconventional Oil & Gas

In response to our goal of Net-Zero by 2050, E.SUN set out a phase-out plan for high GHG emitting coal and unconventional oil & gas related industries in 2022, and further set the long-term goal of complete phase-out by 2035. Coal companies are defined as companies with revenues greater than 5% from thermal coal-related activities, including coal mining, coal power, and coal infrastructure. Unconventional Oil & Gas Companies are defined as companies with more than 30% of revenues from unconventional oil & gas activities from extraction, production, and infrastructure, such as Tar Sands, Shale, Arctic, and ultra-deepwater oil & gas etc. E.SUN has established separate control principles for financing, investment, and proprietary trading operations. For example, financing is divided into project finance and general corporate lending. The amount of finance positions should be reduced annually using the end of 2022 as the exposure baseline, and the positions should be reduced by 50% by 2030 and completely exit by 2035. Additionally, to support enterprises' low-carbon transition, we may agree to additional credit after confirming that the funds will be used for low-carbon transition and that the company has a clear and measurable transition plan set before 2035. We hope that a clear and specific divestment plan for coal and unconventional oil & gas will effectively realign our asset portfolio and help those who want to transition to access capital and move steadily towards net-zero emissions by 2050.



# CH3 Risk Management

[3.1 Risk Identification](#)

[3.2 Impact Assessment](#)

[3.3 Risk Management Procedure](#)

[3.4 High Climate and Environmental  
Risk Management](#)

[3.5 Applying Differential Managements of Industries](#)

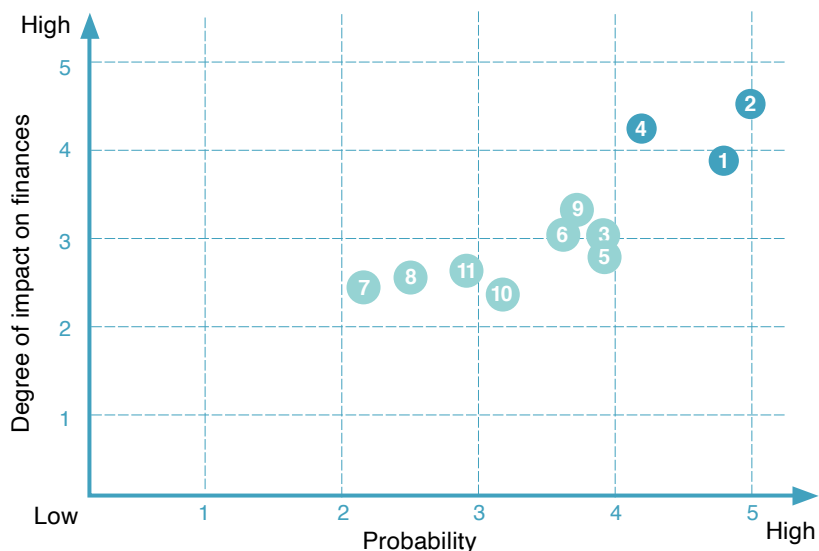
[3.6 Scenario Analysis](#)

[3.7 Risk Management Measures](#)

# 3.1 Risk Identification

Apart from affecting our operations, the greater risk posed by climate change is the impact on lending and investment assets, such as credit deterioration for loans or price fluctuations in investments. Climate change and low carbon transition pose varying levels of impact at different times, affecting the existing financial risks (such as credit risk, market risk, and operational risk). E.SUN has assessed short, medium, and long-term climate-related risks and reviewed our internal management process and the expected lifetime of the assets. These assessments have been integrated into our existing risk management framework and serve to regularly monitor climate change impacts and formulate new measures. We quantitatively assess items 1, 3, 4, 9, 10 and 11.

	Risk Factor	Potential Financial Impact	Impact Term
Policy and Regulation	1 Carbon tax / fees	Carbon tax / fee financial impacts on the company, customer and client.	Short
	2 Stricter regulations	Climate and Environmental policies, laws, and financial supervision become stringent.	Short
Technology	3 Climate-sensitive Assets	Replacement of existing products and services with low carbon and environmentally friendly products may increase the uncertainty of operations and investment and financing assets.	Medium
	4 Business Transition	To refine existing management mechanisms and systems or adjust existing business operations and customer preferences in response to climate and natural environment issues, resulting in an increase in fees and costs (including opportunity costs).	Short
Market	5 Raw Material Prices	Price rising in water, electricity, and raw materials increases cost or negative impact on financial assets.	Medium
	6 Changing Consumer Preferences	Customers' preferences change; decision-making for operations, investment and financing requires considering ESG factors.	Medium
Reputation	7 Negative News / Litigation Risk	Negative behavior of own operations or customers, resulting in negative press and even litigation risk.	Medium
	8 Green-washing risk	Information bias or operating procedures creating risk of green-washing.	Short
Acute	9 Natural Disasters	Natural disasters such as typhoons, floods, and water stress impairs assets or collaterals and interrupts operations.	Medium
Chronic	10 Natural Resource Depletion	Lack or deterioration of natural resources (e.g., water shortages) on which the operation depends, impacting own or customer operations.	Long
	11 Environment Deterioration	Changes in climate patterns, rising sea level, loss of biodiversity affecting the economy, impacting our own business model and that of our customers, increasing costs due to asset impairment or early replacement.	Long



Note: Items ● are more material items

## 3.2 Impact Assessment

Climate and environmental changes have different impacts on the financial industry's operations and business activities, such as investment and financing in the short, medium, and long-term. E.SUN uses the results of material climate and environmental risk identification and follows the "Domestic Bank's Application of Climate Change Scenario Analysis" to conduct scenario analysis (see P.30 for details) in order to assess the impact of climate-related risks on our finances.

Category	Correlation between Physical Risks and Traditional risks					Correlation between Transition Risks and Traditional risks				
	Risk Impact	Major Risk Category	Risk Impact Level			Risk Impact	Major Risk Category	Risk Impact Level		
			Short-term	Medium-term	Long-term			Short-term	Medium-term	Long-term
Lending and Investment	<ul style="list-style-type: none"> <li>Affected by climate change or natural environmental factors (such as strong typhoons, heavy rain, landslides, and debris flows), leading to decreased collateral value or supply chain disruptions affecting customer operations.</li> <li>Climate change and the degradation of natural environmental resources affect macroeconomic factors (e.g., GDP, unemployment rate, insufficient natural resources) or real-world risk events, resulting in adverse effects on investment targets (revenue decline, additional operating costs, supply disruptions), and causing fluctuations in investment position prices.</li> </ul>	Credit Risk	Low	Moderate	Moderate	<ul style="list-style-type: none"> <li>In response to the low-carbon economic transition, the imposition of carbon taxes/fees and carbon tariffs have negative financial impacts on high-carbon-emitting industries, enterprises unable to reduce carbon emissions or phrasing out by green technology, and their related supply chains. Environmental assessment factors influence factory development or operations, or products face boycotts.</li> <li>High-carbon industries face higher operating costs (due to carbon cost burdens) and the risk of failure during the business transformation process; environmental issues impact specific sectors, leading to investment position price fluctuations.</li> </ul>	Credit Risk	Low	Moderate	Moderate
		Market Risk	Low	Moderate	Moderate		Market Risk	Low	Moderate	Moderate
Own Operations, Policy and Reputation	<ul style="list-style-type: none"> <li>Operational sites are affected by extreme weather and natural environment resource factors (such as strong typhoons, heavy rain, water resource pressure), causing damage to buildings, equipment, or negative effects on operations.</li> </ul>	Operational and Reputation Risk	Low	Low	Moderate	<ul style="list-style-type: none"> <li>The levying of carbon-related costs and increased investment in energy conservation and carbon reduction (such as the use of renewable energy and energy-saving equipment) lead to increased resource input.</li> <li>Climate change-related regulations and policies are common sources of transition risk, such as government legislation imposing carbon taxes or fees, applying stricter energy efficiency standards to residential and commercial buildings, and imposing legal disclosure obligations for carbon emissions. When assessing policy and regulatory risks, it is necessary to consider the potential direct impact on operations and the indirect potential impact on the supply chain.</li> <li>Reputational risk is closely related to the perception of customers or the public about whether a company is committed to low carbon transition and upholding its environmental sustainability commitments. If a company fails to fulfill and implement its climate change commitments, it may affect the perception of stakeholders (including its upstream and downstream industry chains) and result in a negative reputation for the company, leading to the loss of customers, consumers, or supplier, affecting the company's ability to obtain funds, or even the ability to recruit and retain employees.</li> </ul>	Operational and Reputation Risk	Low	Low	Moderate
Suppliers	Natural disasters and environmental factors affecting the operation of infrastructure (such as electricity, networks, etc.) may affect business.	Operational Risk	Low	Low	Moderate	<ul style="list-style-type: none"> <li>Manufacturers transfer investment and carbon-related costs due to transition, or adjust service models, or legal restrictions, which increases the cost of payments.</li> </ul>	Operational Risk	Low	Low	Low

Low risk: Small increase in costs with little financial impact

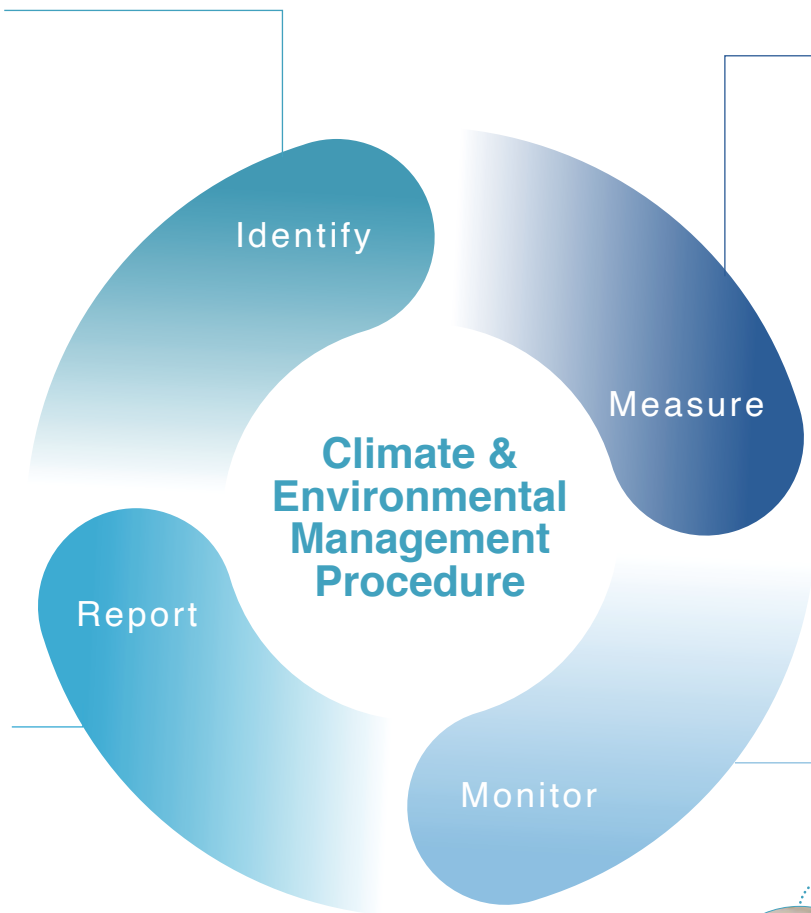
Medium risk: Increased risk of overdrafts and fluctuations in asset prices may affect revenue growth

High risk: Increased risk of defaults on credit assets, fluctuations in investment asset prices, and extreme weather events affecting base operations, which may result in revenue decline

### 3.3 Risk Management Procedure

- The Climate Change Working Group at E.SUN conducts annual assessments of the risks and opportunities related to Climate and Environmental (C&E). We utilize indicators, regulations, guidelines, literature, and expert opinions recommended by TCFD to identify significant C&E risks and opportunities. This helps us assess the impact of climate change and develop appropriate responses.
- Strengthen the identification of high climate change-related risk enterprises in the lending process.
- Incorporate climate change-related risks and opportunities into the decision-making process for securities investment and underwriting business management and analysis.

- The CEO coordinates the management of climate change-related goals and achievements, and the Climate Change Group reports their work progress to the CEO intermittently.
- C&E risk management information is regularly reported to the Board and Risk Management Committee (RMC) to assess risk exposure management situation.
- The RMC submits a C&E risk report to the Board at least every six months. If C&E risks impact overall operations or business conditions, immediate management measures are taken and reported to the Board.



- Inventory greenhouse gas emissions from investments and loans.
- Assess the proportion of climate and Natural-Environmental-Sensitive assets.
- Regularly conduct scenario/stress tests for physical and transition risks to inform strategy and risk management.

- Establish indicators linking climate factors and reduce exposure when triggered.
- Implement science-based reduction targets (SBTs).
- Adopting risk-based differentiated management based on Climate and Environmental (C&E) risk assessment results.



*"Climate change, biodiversity, and natural resources are not just global issues but also risks that the finance industry must actively manage and respond to. Strengthening our operation stability and resilience is the foundation of leveraging the power of finance to assist sustainable development."*

Oliver K.R. Hsieh, CRO

### 3.4 High Climate and Environmental Risk Management

Domestic and international risk management guidelines (e.g., UNEP FI, SASB) are referenced to identify industries that are more susceptible to climate change impacts for external disclosure and internal risk decision-making reference and to adopt risk-based management mechanisms. As of June 2023, E.SUN's climate-sensitive industries and exposure proportions are shown in the table below, with the total

proportion of climate-sensitive industry investments and loans at 6.89%. E.SUN has set the goals of complete phase-out of coal by 2035 and Net-Zero by 2050, using science-based methods and robust risk management to guide us towards achieving Net-Zero.

#### Identification Process of Climate-sensitive Assets

```

graph TD
    A[TCFD Framework] --> B[Reference Banker Association Publications and External Sources]
    B --> C[Inventory and Trial]
    C --> D[Examine and Adjust]
    D --> E[Discuss and Finalize]
            
```

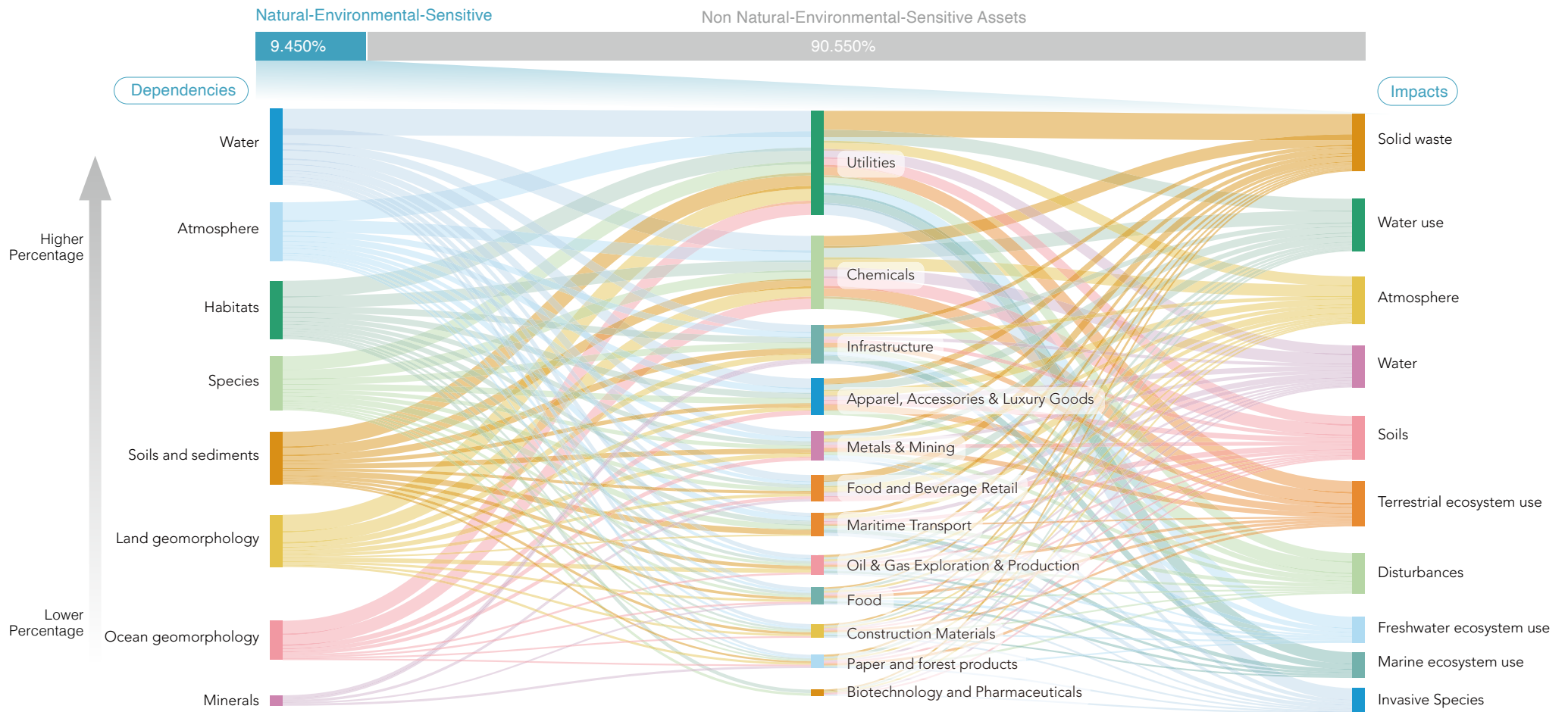
#### Climate-sensitive Sectors

Climate-sensitive Asset Classification		Total Investment and Financing
Energy and Utilities	Energy and Utilities	0.48%
	Power Facilities and Utilities	2.51%
Transportation Industry	Transportation Industry	0.69%
Materials and Construction	Petrochemical/ Chemical	1.93%
	Metal Manufacturing/ Smelting	0.68%
	Cement and Glass	0.17%
Agriculture, Food, and Forestry Products	Agriculture, Forestry, Fishing, and Animal Husbandry	0.15%
	Papermaking	0.28%
Climate-sensitive assets		6.89%
Non-climate-sensitive assets		93.11%
Total		100.00%

### High Natural-Environmental-Sensitive Industries

E.SUN has 71.15% of its financing and investment portfolio within Taiwan. To enhance our understanding of nature-related risks, E.SUN incorporates the July 2021 Sectoral Materiality Tool conducted by the Science Based Targets Network (SBTN), and integrates the list of priority sectors recommended by the TNFD while utilizing the ENCORE tool provided by the Natural Capital Finance Alliance. E.SUN assesses the dependency and impact on natural capital by the Natural-

Environmental-Sensitive sectors in our portfolio. The results indicate that 9.45% of E.SUN's portfolio comprises Natural-Environmental-Sensitive sectors. Among them, public utilities, chemical industries, and infrastructure account for most (60%) Natural-Environmental-Sensitive assets. Water, atmosphere, and habitats represent 50% of the total dependence, while waste, water consumption, and air pollution account for 40% of the overall impact.



### Result of Risk Identification on High Natural-Environmental-Sensitive Industries

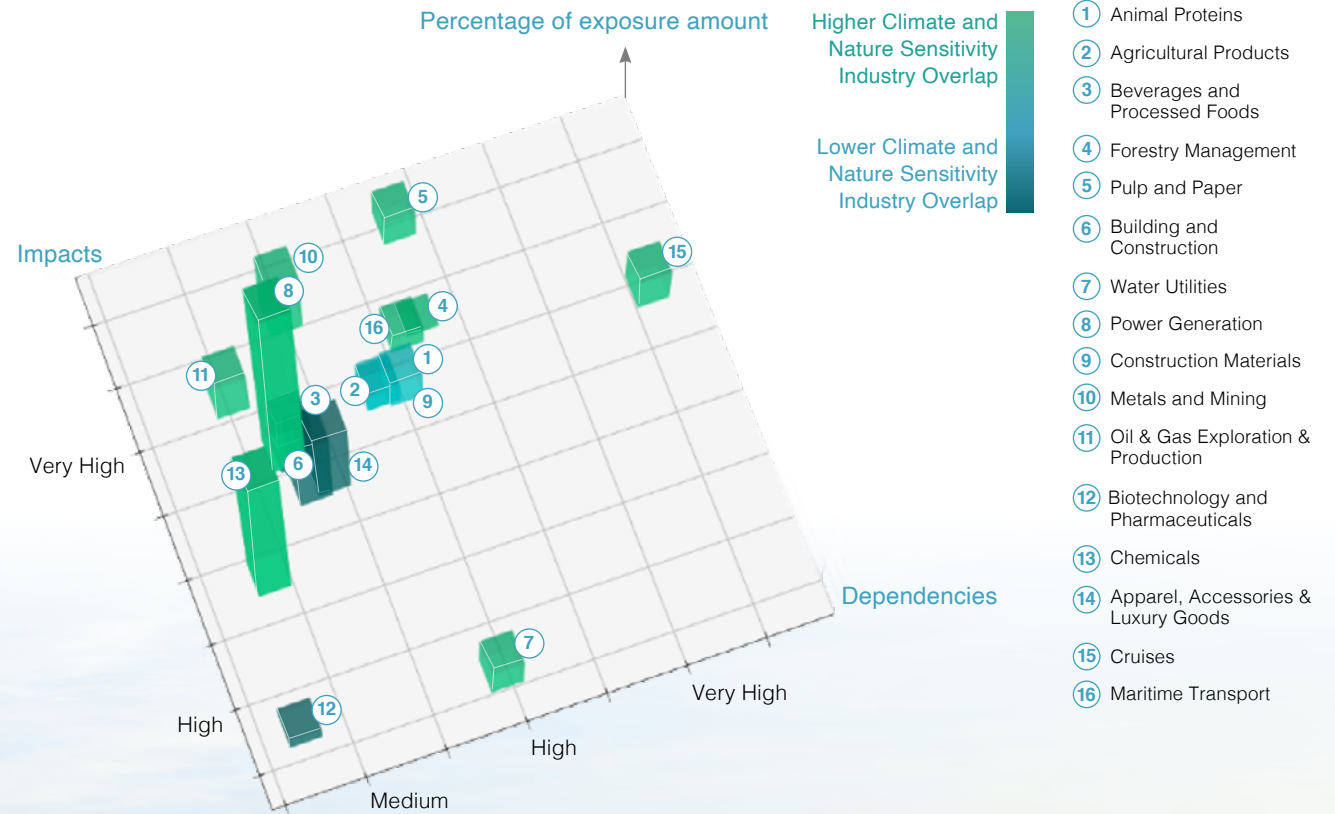
To provide external disclosure and guide internal decision-making, we have consolidated the industries that depend on and are vulnerable to the natural environment in the financial aspect. The table below is based on the proportion of risk exposure in various sectors as of June 2023.

Category	Dependencies						Impacts				
Thematic Sectors	Industries	Atmosphere	Habitats	Soils and Sediments	Species	Water	Natural Environment Changes	Improper Resource Development	Pollution	Species Interference	Percentage of Total Financing and Investment (%)
Food	① Animal Proteins										0.18%
	② Agricultural Products										0.23%
Food and Beverage Retail	③ Beverages and Processed Foods										0.62%
Forestry and Paper	④ Forestry Management										0.00%
	⑤ Pulp and Paper										0.30%
Infrastructure	⑥ Building and Construction										0.87%
Public Utilities	⑦ Water Utilities										0.34%
	⑧ Power Generation										2.20%
Construction Materials	⑨ Construction Materials										0.32%
Metals and Mining	⑩ Metals and Mining										0.69%
Oil and Gas	⑪ Oil & Gas Exploration & Production										0.46%
Biotechnology and Pharmaceuticals	⑫ Biotechnology and Pharmaceuticals										0.12%
Chemicals	⑬ Chemicals										1.72%
Apparel and Fabrics	⑭ Apparel, Accessories & Luxury Goods										0.85%
Maritime Transport	⑮ Cruises										0.35%
	⑯ Maritime Transport										0.20%
Nature-sensitive Sectors										9.45%	
Non-nature-sensitive Sectors										90.55%	
Total										100.00%	

Very High High Medium Low No Data

### Climate and Nature Sensitivity Overlap Analysis

To strengthen our identification of nature-related risks, we have to understand the financial impacts of environmental issues on a company and the company's impact and dependencies on natural capital. The diagram on the right integrates the distribution of dependence and impact of nature-sensitive industries with the identification results of investment and financing. Power generation and the chemical industry have higher proportions of exposure and higher dependence and impact scores; results show that 70% of nature-sensitive assets in E.SUN's finance and investment portfolio overlap with climate-sensitive sectors, such as power generation, chemicals, and mining. Data and methodologies for assessing nature-sensitive sectors are constantly evolving. In the future, we will continue to enhance our assessment of impacts and dependencies to provide more comprehensive decision-making information for risk management.



## 3.5 Applying Differential Managements of Industries

E.SUN incorporates climate change-related risks into its daily operations, differentiating its business as shown in the table below, actively managing carbon emissions from financial assets, increasing green assets, reducing grey assets in investment and financing positions, guiding low-carbon transition through financial resources, exerting its financial influence, and fulfilling global climate-related sustainable goals.

Management Measures	Industry Management Description	
Avoid	<ul style="list-style-type: none"> <li>According to "E.SUN Financial Holding Co., Ltd. Sustainable Finance Policy," companies involved in illegal logging, harming endangered wildlife, developing coal mines, or setting up new coal-fired power projects should be avoided.</li> <li>Real estate collateral listed in the "Soil and Groundwater Pollution Remediation Act" should be avoided.</li> </ul>	<ul style="list-style-type: none"> <li>According to "Guidelines for the Phase-Out of Coal and Unconventional Oil &amp; Gas Industries of E.SUN Financial Holding Company," to accelerate the phase-out of high GHG emitting coal companies and unconventional Oil &amp; Gas companies.</li> </ul>
Enhanced management	<ul style="list-style-type: none"> <li>Companies involved in coal-fired power generation, tobacco, gambling, mining, and leather and fur-related activities should be carefully evaluated and regularly monitored.</li> <li>Signed the Equator Principles and, according to Equator Principles 4.0, included climate change assessment as a necessary item in project financing.</li> <li>Equator Principles should be introduced to large-scale project financing in sectors such as electricity, oil and petrochemicals, and infrastructure for risk classification and management. The projects should be carefully assessed for fulfilling social responsibility, proper environmental and social impact monitoring, and improvement planning. Analyze the practical implementation of climate-related physical and transitional risks, environmental pollution, and biodiversity issues on a case-by-case basis.</li> <li>Design mechanisms to encourage customers with environmental pollution penalties to improve their issues.</li> </ul>	<ul style="list-style-type: none"> <li>Design differential measures to address industry-specific climate and environmental risks, such as carbon emissions, climate risks, biodiversity, toxic substance management, and water resources.</li> <li>Integrate hazard and vulnerability of climate risk factors into real estate collateral zoning standards to manage credit business climate risks within jurisdiction divisions.</li> <li>Strengthen the review process for cases in high-slope land disaster risk communities.</li> </ul>
Actively supports	<ul style="list-style-type: none"> <li>Support social innovation and local revitalization industries, providing customized financial services, financial counseling, and marketing resources, adding momentum to Taiwan's local and national society movement towards SDGs.</li> </ul>	<ul style="list-style-type: none"> <li>Increase investment and financing amount for forward-looking economic activities or key strategies mentioned in the National Development and Reform Commission's 2050 net-zero emission pathway, including wind power/solar power, hydrogen energy, forward-looking energy, power systems and energy storage, energy conservation, carbon capture utilization and storage, vehicle electrification and decarbonization, resource recycling and zero waste, natural carbon sinks, etc.</li> </ul>

## 3.6 Scenario Analysis

Scenario analysis is a process used to assess probable future impacts under uncertain conditions. E.SUN follows the "Domestic Bank's Application of Climate Change Scenario Analysis" and methodologies for this year's portfolio, differentiating domestic and overseas corporate stocks and bonds, corporate loans, personal finance, etc., to identify risks and opportunities and measure potential financial impacts from climate risks. We use the results to support our strategy and risk management.

The scenarios are primarily based on the climate scenarios released by international organizations, such as The Network for Greening the Financial System (NGFS) and the United Nations Intergovernmental Panel on Climate Change (IPCC), and three scenarios are set up: Orderly Transition, Disorderly Transition, and No Policy scenarios, etc. The scenarios use the years 2030 and 2050 as checkpoints to analyze the impacts of climate change in the longer term.



### Scenario Setting

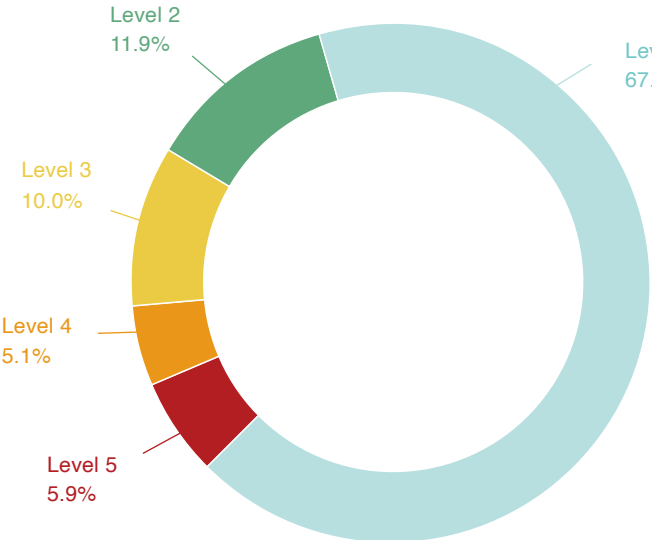
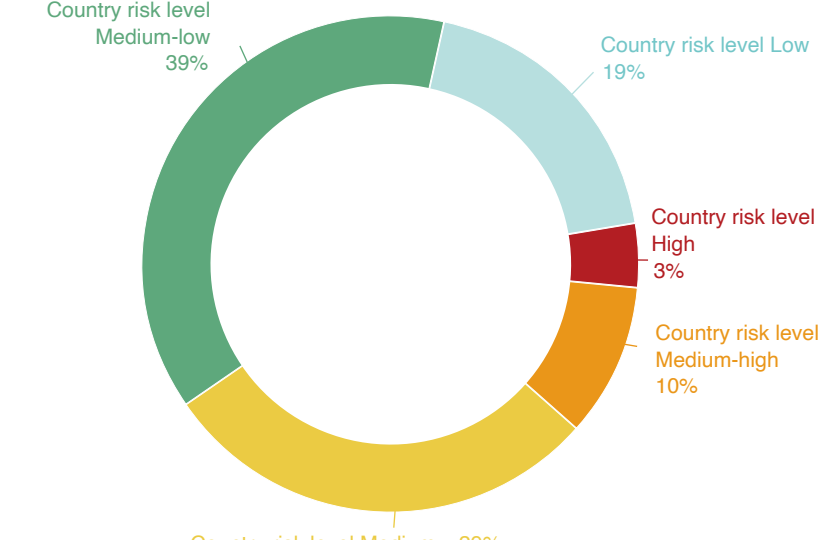
Category	Orderly Transition	Disorderly Transition	No Policy
Scenario Description	<ul style="list-style-type: none"> <li>Gradual and measured transition to Net-Zero globally by 2050</li> </ul>	<ul style="list-style-type: none"> <li>Delayed start but still reaches Net-Zero by 2050</li> </ul>	<ul style="list-style-type: none"> <li>Climate change brought on by lack of transition policies</li> </ul>
	<ul style="list-style-type: none"> <li>Limit warming to 1.5°C</li> </ul>	<ul style="list-style-type: none"> <li>Limit warming to 1.8°C</li> </ul>	<ul style="list-style-type: none"> <li>Warming reaches 3+°C</li> </ul>
Transition Risk	<ul style="list-style-type: none"> <li>Taking into account carbon emission intensity by country and industry, and carbon price impacts on finances</li> </ul>		
	<ul style="list-style-type: none"> <li>NGFS Net Zero 2050 Scenario</li> </ul>	<ul style="list-style-type: none"> <li>NGFS Delayed Transition Scenario</li> </ul>	<ul style="list-style-type: none"> <li>NGFS Baseline Scenario</li> </ul>
Physical Risk	<ul style="list-style-type: none"> <li>IPCC AR5 RCP 2.6 Scenario</li> </ul>	<ul style="list-style-type: none"> <li>IPCC AR5 RCP 2.6 Scenario</li> </ul>	<ul style="list-style-type: none"> <li>IPCC AR5 RCP 8.5 Scenario</li> </ul>
Overall Economy	<ul style="list-style-type: none"> <li>Taking into account GDP growth rate, Unemployment rate, and long-term interest rate change in NGFS scenarios</li> </ul>		

Note: The RCP2.6 scenario represents an increase in radiation intensity of 2.6 watts/m<sup>2</sup> in 2100, while the RCP8.5 scenario represents an increase of 8.5 watts/m<sup>2</sup>.

# Transition Risk Factors

## Carbon pricing system results in additional costs for businesses, country transition risk

The main source of transition risk from climate change is the cost associated with carbon emissions. Businesses are required to comply with low-carbon transition regulations, which may result in expenses for carbon reduction and carbon taxes/fees, thereby negatively impacting their operations or revenues. The assessment of transition risk primarily considers the additional costs to businesses due to carbon pricing systems and the credit rating downgrade caused by low-carbon transition efforts by companies in different countries. The evaluation methodology, scope, and analysis result are outlined in the table below.

Transition risk factors	Carbon pricing system results in additional costs for businesses	Country transition risk																								
Evaluation methodology	Carbon price revenue loss ratio corresponding to the risk level by industry (as categorized by the division of Standard Industrial Classification System)	Credit rating downgrade calculation based on the country of the borrower																								
Scope	Domestic corporate loans, stocks and bonds investment	Overseas corporate loans, stocks and bonds investment																								
Analysis result	<p>Distribution of carbon price revenue loss catastrophic amounts (by risk levels)</p>  <table border="1"> <caption>Distribution of carbon price revenue loss catastrophic amounts (by risk levels)</caption> <thead> <tr> <th>Risk Level</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Level 1</td> <td>67.1%</td> </tr> <tr> <td>Level 2</td> <td>11.9%</td> </tr> <tr> <td>Level 3</td> <td>10.0%</td> </tr> <tr> <td>Level 4</td> <td>5.1%</td> </tr> <tr> <td>Level 5</td> <td>5.9%</td> </tr> </tbody> </table>	Risk Level	Percentage	Level 1	67.1%	Level 2	11.9%	Level 3	10.0%	Level 4	5.1%	Level 5	5.9%	<p>Distribution of exposure amounts of transition risk by country</p>  <table border="1"> <caption>Distribution of exposure amounts of transition risk by country</caption> <thead> <tr> <th>Country Risk Level</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Country risk level Low</td> <td>19%</td> </tr> <tr> <td>Country risk level Medium-low</td> <td>39%</td> </tr> <tr> <td>Country risk level Medium</td> <td>29%</td> </tr> <tr> <td>Country risk level Medium-high</td> <td>10%</td> </tr> <tr> <td>Country risk level High</td> <td>3%</td> </tr> </tbody> </table>	Country Risk Level	Percentage	Country risk level Low	19%	Country risk level Medium-low	39%	Country risk level Medium	29%	Country risk level Medium-high	10%	Country risk level High	3%
Risk Level	Percentage																									
Level 1	67.1%																									
Level 2	11.9%																									
Level 3	10.0%																									
Level 4	5.1%																									
Level 5	5.9%																									
Country Risk Level	Percentage																									
Country risk level Low	19%																									
Country risk level Medium-low	39%																									
Country risk level Medium	29%																									
Country risk level Medium-high	10%																									
Country risk level High	3%																									

Note1: Risk is categorized into 5 levels, level 5 being the highest risk.

Note2: The industries classified as level 5 in terms of carbon price revenue loss risk include the electricity and gas supply, agriculture and animal husbandry, water transportation, etc.

# Physical Risk Factors

## Work suspension due to heavy rain and drought

The extent of losses to physical risk targets primarily considers work suspension due to heavy rain (calculated based on the government's criteria for suspending work and classes in different areas when the daily rainfall intensity reaches a certain threshold) and drought (calculated based on the additional water costs incurred by businesses due to water-use restrictions caused by drought). This assessment does not consider the overall economic impact of physical risks. The evaluation methodology, scope, and analysis result are outlined in the table below.

Physical risk factors	Work suspension due to heavy rain	Drought									
Evaluation methodology	Calculation of revenue loss ratio based on the risk level corresponding to the township or city where the company is located.										
Scope	Domestic corporate loans, stocks and bonds investment										
Analysis result	<p>Figure 1: Distribution of risk levels for businesses based on their registered location in different scenarios</p>	<p>Figure 3: Distribution of catastrophic amounts based on the registered location of businesses</p>									
	<p>Figure 2: Distribution of catastrophic amounts for businesses based on their registered location in different geographic</p> <table border="1"> <thead> <tr> <th>Northern region</th> <th>Central Region</th> <th>Southern Region</th> <th>Eastern Region</th> <th>Others</th> </tr> </thead> <tbody> <tr> <td>66.23%</td> <td>15.86%</td> <td>15.79%</td> <td>0.19%</td> <td>1.93%</td> </tr> </tbody> </table>	Northern region	Central Region	Southern Region	Eastern Region	Others	66.23%	15.86%	15.79%	0.19%	1.93%
Northern region	Central Region	Southern Region	Eastern Region	Others							
66.23%	15.86%	15.79%	0.19%	1.93%							

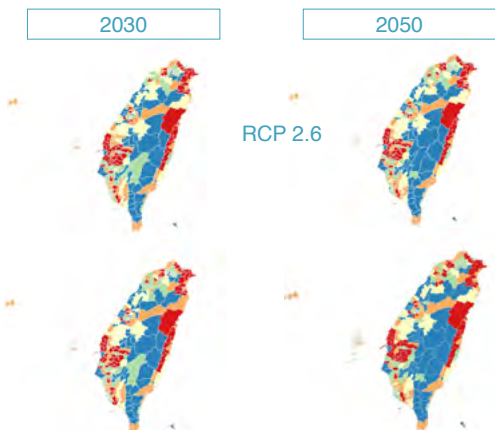
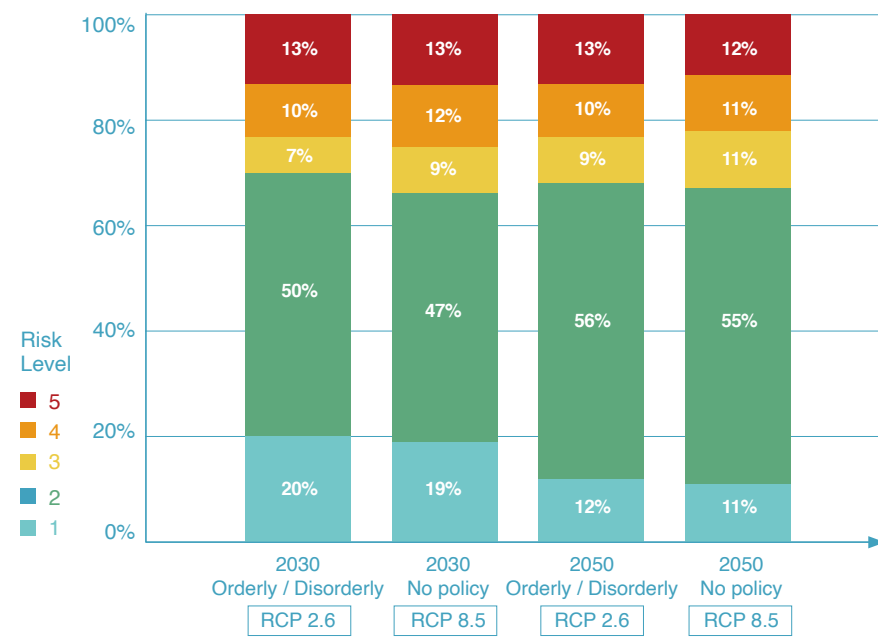
- Risk is categorized into 5 levels, level 5 being the highest risk
- Northern Region: Taipei City, New Taipei City, Keelung City, Hsinchu City, Taoyuan City, Hsinchu County and Yilan County
- Central Region: Taichung City, Miaoli County, Changhua County, Nantou County and Yunlin County
- Southern Region: Kaohsiung City, Tainan City, Chiayi City, Chiayi County, Pingtung County and Penghu County

- Eastern Region: Hualien County and Taitung County
- Others: Lienchiang County, Kinmen County, and other townships/cities that are not available for queries

# Physical Risk Factors

## Collateral Value Impairment Due to Flood

The assessment of value impairment of real estate collateral due to physical risks primarily considers short-duration floods caused by heavy rain (calculated based on the cost of asset damage and restoration caused by flooding within a short period). This assessment does not consider the overall economic impact of physical risks. The evaluation methodology, scope, and analysis result are outlined in the table below.

Physical risk factors	Collateral value impairment due to flood																																							
Evaluation methodology	Calculation of the extent of collateral value impairment based on the location of the collateral																																							
Scope	Domestic corporate loans, stocks, and bonds investment, and personal loans - mortgage																																							
Analysis result	<p>Figure 1: Risk level distribution of collateral locations in different scenarios</p>  <p>Figure 2: Distribution of the exposure amount for collateral located in different regions (domestic locations)</p> <table border="1"> <thead> <tr> <th>Northern Region</th> <th>Central Region</th> <th>Southern Region</th> <th>Eastern Region</th> </tr> </thead> <tbody> <tr> <td>61.71%</td> <td>16.50%</td> <td>21.20%</td> <td>0.59%</td> </tr> </tbody> </table>	Northern Region	Central Region	Southern Region	Eastern Region	61.71%	16.50%	21.20%	0.59%	<p>Figure 3: Distribution of the exposure amount for real estate collateral</p>  <table border="1"> <caption>Data for Figure 3: Distribution of the exposure amount for real estate collateral</caption> <thead> <tr> <th>Scenario</th> <th>Risk Level 1</th> <th>Risk Level 2</th> <th>Risk Level 3</th> <th>Risk Level 4</th> <th>Risk Level 5</th> </tr> </thead> <tbody> <tr> <td>2030 Orderly / Disorderly (RCP 2.6)</td> <td>20%</td> <td>50%</td> <td>7%</td> <td>10%</td> <td>13%</td> </tr> <tr> <td>2030 No policy (RCP 8.5)</td> <td>19%</td> <td>47%</td> <td>9%</td> <td>12%</td> <td>13%</td> </tr> <tr> <td>2050 Orderly / Disorderly (RCP 2.6)</td> <td>12%</td> <td>56%</td> <td>9%</td> <td>10%</td> <td>13%</td> </tr> <tr> <td>2050 No policy (RCP 8.5)</td> <td>11%</td> <td>55%</td> <td>11%</td> <td>11%</td> <td>12%</td> </tr> </tbody> </table>	Scenario	Risk Level 1	Risk Level 2	Risk Level 3	Risk Level 4	Risk Level 5	2030 Orderly / Disorderly (RCP 2.6)	20%	50%	7%	10%	13%	2030 No policy (RCP 8.5)	19%	47%	9%	12%	13%	2050 Orderly / Disorderly (RCP 2.6)	12%	56%	9%	10%	13%	2050 No policy (RCP 8.5)	11%	55%	11%	11%	12%
	Northern Region	Central Region	Southern Region	Eastern Region																																				
61.71%	16.50%	21.20%	0.59%																																					
Scenario	Risk Level 1	Risk Level 2	Risk Level 3	Risk Level 4	Risk Level 5																																			
2030 Orderly / Disorderly (RCP 2.6)	20%	50%	7%	10%	13%																																			
2030 No policy (RCP 8.5)	19%	47%	9%	12%	13%																																			
2050 Orderly / Disorderly (RCP 2.6)	12%	56%	9%	10%	13%																																			
2050 No policy (RCP 8.5)	11%	55%	11%	11%	12%																																			

- Risk is categorized into 5 levels, level 5 being the highest risk
- Northern Region: Taipei City, New Taipei City, Keelung City, Hsinchu City, Taoyuan City, Hsinchu County and Yilan County
- Central Region: Taichung City, Miaoli County, Changhua County, Nantou County and Yunlin County
- Southern Region: Kaohsiung City, Tainan City, Chiayi City, Chiayi County, Pingtung County and Penghu County

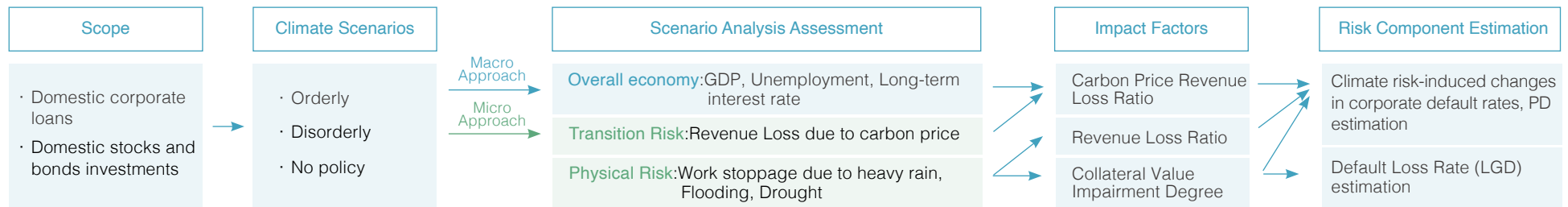
- Eastern Region: Hualien County and Taitung County
- Others: Lienchiang County, Kinmen County, and other townships/cities that are not available for queries

# Domestic Corporate Loans, Stocks and Bonds Investments

## Summary of Analysis Process

Domestic corporate loans, stocks and bonds investment sectors are categorized into two risk estimation methods under various climate change scenarios: the macroeconomic approach and microeconomic approach routes. In the macroeconomic approach, the concept of asset portfolio is used to consider the magnitude of the impact on the general economic indicators under stress scenarios and assess the impact on the risk indicators; in the microeconomic approach, the changes in the risk indicators of individual targets under stress scenarios and the impact on physical risks and transformation risks are also considered, which can provide a more comprehensive assessment of the climate change risks.

## Analysis Method



## Analysis Results

The analysis results for domestic corporate loans ,and domestic stocks & bonds investments are shown in the figure on the right.

The highest expected losses occur in the disorderly scenario in 2050.

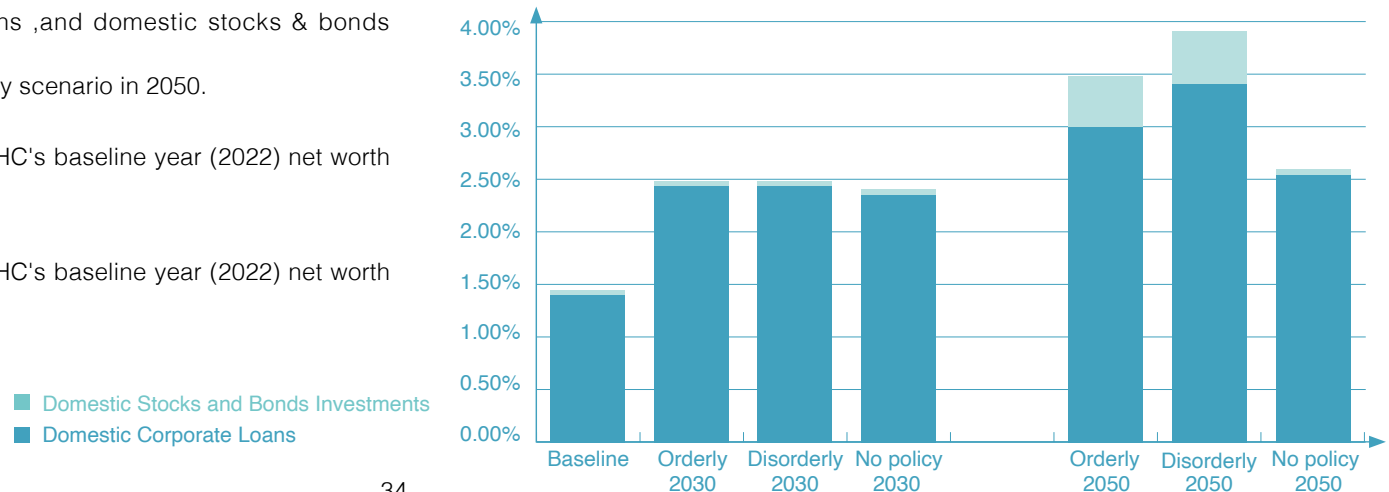
### Domestic Stocks and Bonds Investments

The expected losses as a percentage of E.SUN FHC's baseline year (2022) net worth are estimated to be between 0.04% and 0.48%.

### Domestic Corporate Loans

The expected losses as a percentage of E.SUN FHC's baseline year (2022) net worth are estimated to be between 1.36% and 3.30%.

Expected Losses / Benchmark Year Net Worth for Domestic Corporate Credit, Domestic Bond Investments, and Equity Investments



# Personal Loans - Mortgage and Others

## Summary of Analysis Process

In assessing the risk of personal credit in various climate change scenarios, there are two aspects to consider: the macroeconomic approach and the microeconomic approach. The macroeconomic approach considers the borrower's risk by evaluating their financial flexibility based on their income and level of external debt. The microeconomic approach considers the damage to collateral caused by flooding and comprehensively assesses the expected losses on E.SUN real estate collateral due to the impact of climate change.

## Analysis Method



## Analysis Results

The analysis results of personal credit are shown in the figure on the right. The highest expected losses occur in the disorderly transition scenario in 2030.

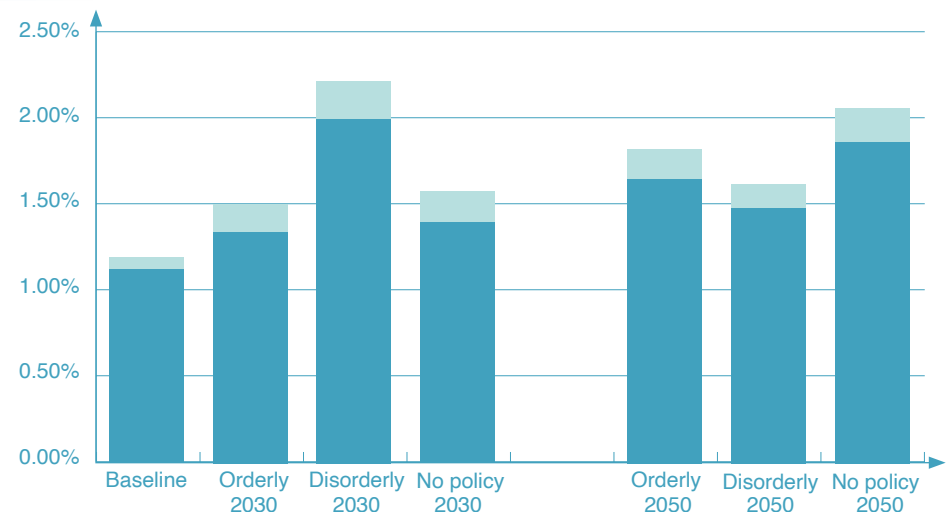
### Personal Credit - Mortgage

The expected losses as a percentage of E.SUN FHC's baseline year (2022) net worth are estimated to be between 0.05% and 0.19%.

### Personal Credit - Others

The expected losses as a percentage of E.SUN FHC's baseline year (2022) net worth are estimated to be between 1.09% and 1.94%.

Expected Losses on Personal Credit / Baseline Year Net Worth of E.SUN FHC



# Overseas Corporate Loans, Stocks and Bonds Investment

## Summary of Analysis Process

Foreign corporate credit, bond, and equity investments typically involve sovereign countries or international corporations as counterparties. There is international credit rating information available for reference, so the primary consideration is the international credit rating outcome. Credit rating adjustments are made under stressed scenarios based on the level of transformation risk for countries and industries. Additionally, macroeconomic factors are considered to determine default rates under stressed scenarios.

## Analysis Method



## Analysis Results

The analysis results of overseas corporate loans ,and overseas stocks & bonds investments are shown in the figure on the right. The highest expected losses occur in the Disorderly Transition scenario in 2050.

### Overseas Stocks and Bonds Investment

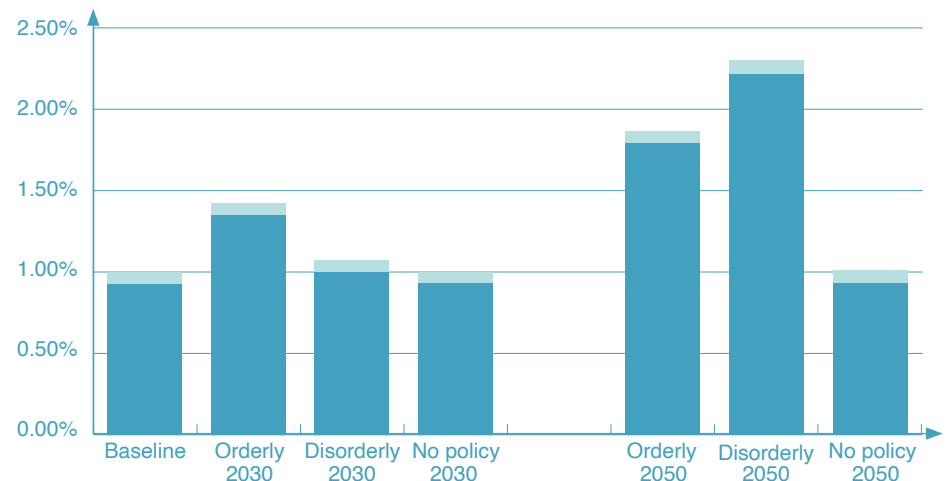
The expected losses as a percentage of E.SUN FHC's baseline year (2022) net worth are estimated to be between 0.07% and 0.08%.

### Overseas Corporate Loan

The expected losses as a percentage of E.SUN FHC's baseline year (2022) net worth are estimated to be between 0.90% and 2.15%.

■ Overseas Stocks and Bonds Investment  
■ Overseas Corporate Loan

Expected Losses on Overseas Corporate Loans, Stocks, and Bonds Investment / Baseline Year Net Worth of E.SUN FHC



## Scenario Analysis Overall Results

The consolidated corporate loan, personal loan, and investment positions analysis results for E.SUN FHC are shown in Figure 1 and 2. The highest expected loss occurs in the scenario of Disorderly Transition in 2050. The expected loss for the scenario amounts to approximately 7.57% of E.SUN FHC's baseline year (2022) net worth.

Figure 1: Expected Losses by Scenario as a Percentage of Base Year Net Worth

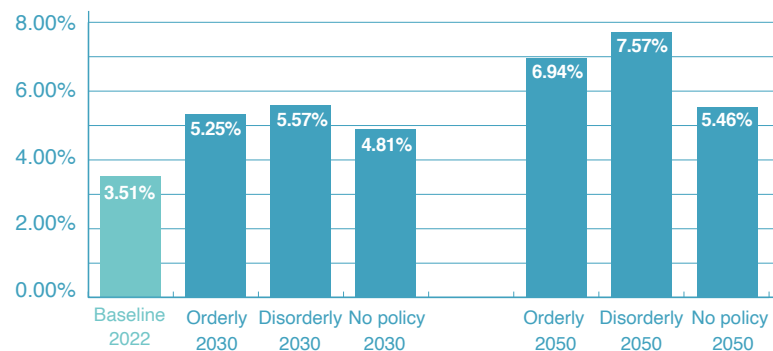
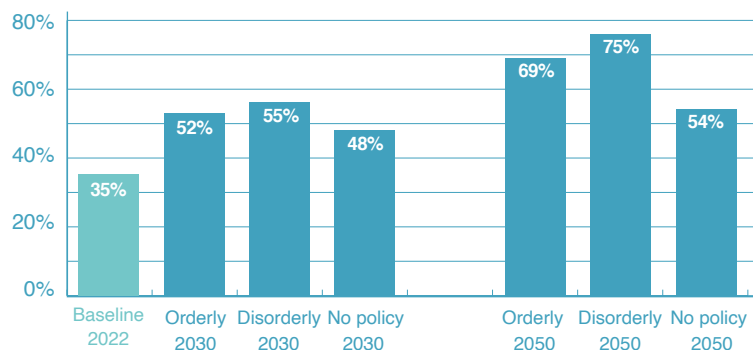


Figure 2: Expected losses by Scenario as a Percentage of Base Year Income / Loss Before Tax



## Scenario Analysis for the Six High-energy and High-carbon-emission Industries by the Ministry of Economic Affairs

The Ministry of Economic Affairs has announced the six major energy-consuming industries, which are considered high-energy and high-carbon-emission industries, in accordance with Article 8, Paragraph 2 of the Energy Administration Act. These industries include petrochemical, electronics, steel, cement, textile, paper industry. The classification is based on industry sectors defined by the Standard Industrial Classification System.

The main source of transformation risks for high-energy and high-carbon emitting industries is the cost of carbon emissions. In response to the increasing threat of extreme climate events, countries have set "net-zero emissions by 2050" as a goal and have proposed various carbon reduction measures and policies. In order to comply with the regulations related to net-zero transformation, companies need to bear the expenses of carbon reduction and carbon taxes/fees, which may have a negative impact on their operations or revenue. This can potentially create significant pressure on the operations of high-energy and high-carbon emitting companies.

The main physical risks are impacts from natural disasters, such as typhoons and heavy rainfall leading to work stoppages, as well as droughts increasing water costs for businesses. These factors can result in loss of revenue for companies. Additionally, flooding can devalue the real estate collateral of a company, leading to financial losses and impacting the ability to repay, thereby increasing default risk.

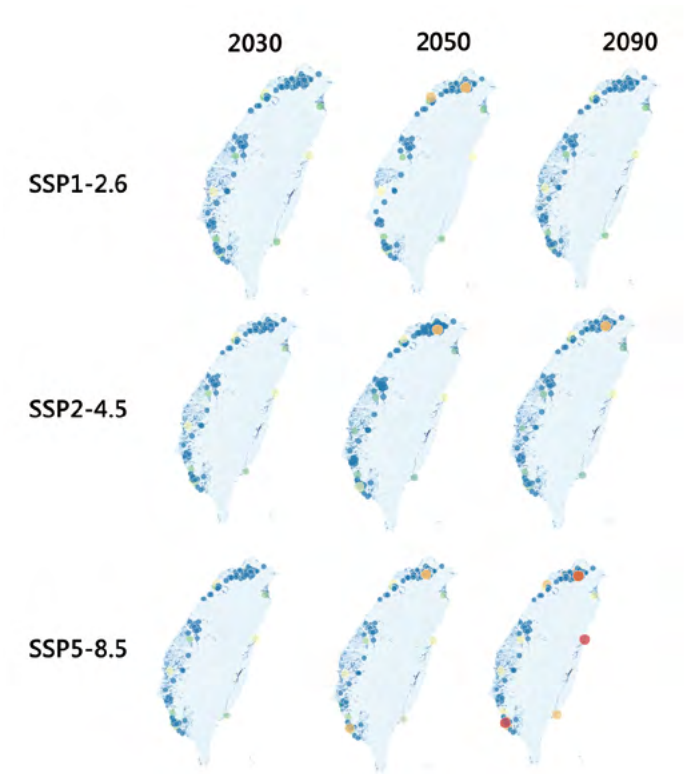
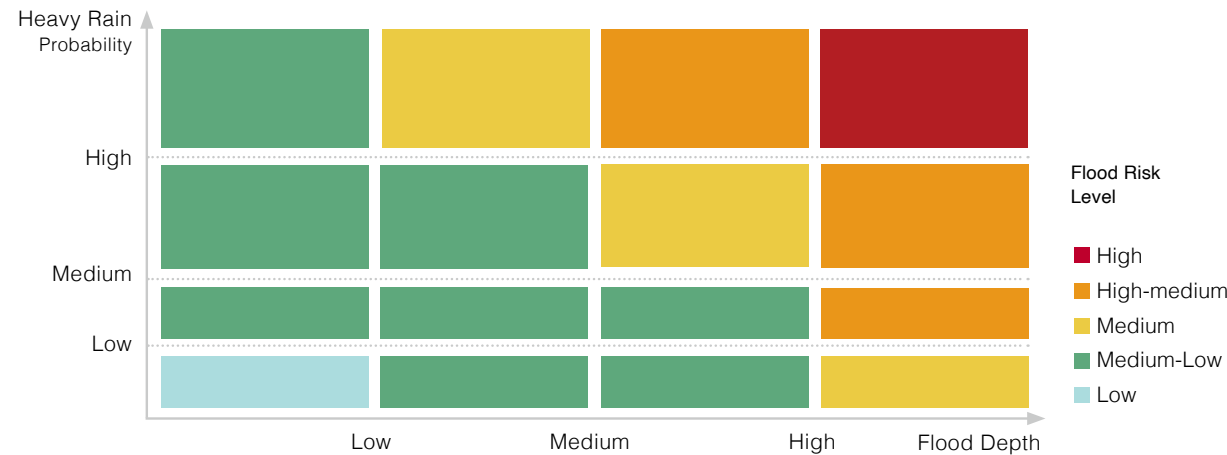
Using methods and scenarios set out by the "Guidelines for the Conduct of Stress Tests by Domestic Banks", a summary of the results is as follows:

### Expected Losses in High-energy and High-carbon-emission Industries

Six high-energy and high-carbon industries	Percentage of exposure amount	Expected Loss as Net Worth Percent	
		2030 Orderly	2050 Orderly
Petrochemical industry	0.67%	0.08%	0.09%
Electronics industry	9.60%	0.41%	0.58%
Steel industry	0.69%	0.05%	0.08%
Cement industry	0.08%	0.01%	0.02%
Textile industry	0.61%	0.03%	0.04%
Paper industry	0.52%	0.02%	0.03%
<b>Total</b>	<b>12.17%</b>	<b>0.60%</b>	<b>0.84%</b>

# Direct Operation Scenario Analysis

Climate risks for financial institutions are mainly from finance and investment positions. Direct operation transition risks mainly affect water and electricity prices and the cost of compliance, which have relatively low impacts on finances. Physical risks are more likely to affect business operations and income; thus, direct operation analyses are mainly based on physical risks. In reference to the IPCC physical risk analysis framework and suggestions from internal experts, a flood risk level analysis using hazards, vulnerability, and operating location (exposure) is shown in the chart below. In considering the operation lifecycle, we mainly consider the timeframe before 2030 and 2050. Analysis results show there are no high-risk locations within this timeframe.



Scenario	SSP1-2.6			SSP2-4.5			SSP5-8.5		
	2030	2050	EoC*	2030	2050	EoC*	2030	2050	EoC*
<b>High Risk</b>	0	0	0	0	0	0	0	0	4
<b>High-Medium Risk</b>	0	3	0	0	2	0	0	3	11
<b>Medium Risk</b>	6	10	6	6	3	6	6	6	12
<b>Medium-Low Risk</b>	21	14	21	21	22	21	21	18	0
<b>Low Risk</b>	140	140	140	140	140	140	140	140	140

Note: SSP (Shared Socioeconomic Pathway) emission scenarios depend on future socio-economic assumptions, the extent of emission reductions, aerosol pollutants, etc. resulting in different GHG emissions.

\*EoC: End of Century

## Integrated Analysis

- Conducting climate change scenario analysis helps quantify the transmission pathways of climate risks and their potential impact on assets, supporting in strategy formulation and management measures.
- Industries with higher carbon emissions, such as electricity and gas supply, agriculture, and water transport, may face greater transition risks due to carbon-related costs. Failure to undergo timely transitions could result in higher risks.
- Physical risks depend on the geographical location of the facilities. For example, extreme rainfall may pose higher risks in areas with a higher probability of heavy rain and poor drainage. Drought risks depend on regional factors such as the probability of extreme rainfall, water supply and demand, and industry reliance on water resources. Businesses can enhance operational resilience through adaptation measures.
- Climate change scenario analysis involves simulation analysis based on scenario assumptions and is not a prediction of the future. Given the complex mechanisms by which climate change impacts the environment and economy, the results of the analysis are subject to high uncertainty and should be interpreted with caution.

## Recommended Strategies

- Increase the proportion and revenue of green financial assets to enhance portfolio resilience.
- Incorporate ESG factors into investment and credit decision-making.
- Enhance customer awareness of climate and environmental issues to assist in their transition and reduce risks.
- Establish a database for physical risks and incorporate Geographic Information System (GIS) technology to improve physical risk identification and management, particularly for real estate collateral lending.
- Develop disaster response measures and consider physical risks in selecting operational locations.

## Strategy Resilience Review

- Review current strategies, assess alignment with international development trends and response to risks and opportunities related to climate and environment. Continuously monitor climate and environmental trends and deepen relevant infrastructure to enhance resilience.



## 3.7 Risk Management Measures

Based on the comprehensive climate change risk assessment results and climate change scenario (stress) testing analysis, E.SUN's management measures are summarized in the following table.

Scope	Material Risks	Risk Factors	Management Measures / Adaptation Plans
Low Carbon Transition	<ul style="list-style-type: none"> <li>1 Carbon tax/fees</li> <li>3 Climate-sensitive Assets</li> <li>4 Business Transition</li> </ul>	Reduce own operational and investment-related carbon emissions	<ul style="list-style-type: none"> <li>• Inventory carbon emissions from Scope1 and 2 and plan mitigation measures (such as installing solar panels, using renewable energy, etc.)</li> <li>• Follow PCAF methodology for carbon inventory of investment and financing activities.</li> <li>• Set targets and reduce carbon emissions according to SBTi.</li> </ul>
Investment	<ul style="list-style-type: none"> <li>6 Changing Consumer Preferences</li> </ul>	Stock and bond investments	<ul style="list-style-type: none"> <li>• Fulfill the responsibility as asset owners or managers by considering the ESG performance of investees.</li> <li>• Avoid investing in enterprises with direct or potential environmental and social impacts, such as coal companies, and implement responsible investment.</li> <li>• Promote or assist enterprises in sustainability awareness and ESG actions through engagement.</li> </ul>
Loan	<ul style="list-style-type: none"> <li>1 Carbon tax/fees</li> <li>3 Climate-sensitive Assets</li> <li>4 Business Transition</li> </ul>	Corporate loans	<ul style="list-style-type: none"> <li>• Through green financing, support renewable energy projects, green buildings, and other sustainable capital expenditures to help enterprises transition and respond to climate risks.</li> <li>• Link credit conditions to comprehensive performance in ESG or sustainability indices to encourage enterprises to invest in sustainability.</li> <li>• Refer to the guidance of the Banking Association's Equator Principles 4.0 for corporate credit review.</li> <li>• Include ESG considerations in the credit process to avoid funds flowing to high-carbon projects such as coal-fired power projects.</li> </ul>
	<ul style="list-style-type: none"> <li>9 Natural Disasters</li> <li>10 Natural Resource Depletion</li> <li>11 Environment Deterioration</li> </ul>	Real estate collateral loans	<ul style="list-style-type: none"> <li>• Regularly assess and monitor the potential risk of real estate value impairment caused by climate change and continuously improve the database of physical risks, analysis methods, and scenario testing.</li> <li>• Incorporate flood risk factors - hazards (e.g., heavy rainfall, increased typhoon frequency) and vulnerability (e.g., whether the area is prone to flooding) into the real estate collateral zoning standards and set lending limits and LTV ratios according to the zoning to control risks.</li> <li>• Regularly manage high flood risk cases, add special note, and carefully assess for collateral located in high climate risk areas with high LTV ratios.</li> <li>• Refuse collateral labeled as pollution-related sites or those announced by government agencies as subject to the "Soil and Groundwater Pollution Remediation Act."</li> <li>• Strengthen processes and conditions for collateral in high landslide-risk communities.</li> </ul>
Own operation	<ul style="list-style-type: none"> <li>9 Natural Disasters</li> <li>10 Natural Resource Depletion</li> <li>11 Environment Deterioration</li> </ul>	Disaster response	<ul style="list-style-type: none"> <li>• Developed the "Emergency Response and Crisis Management Measures" based on the "Financial Institution Disaster Emergency Response Measures Manual Template" and operational overview to ensure operational continuity and organizational resilience.</li> <li>• The "Continuous Information Service Management Regulation" takes into consideration power supply interruption and regional flooding recovery.</li> </ul>
	<ul style="list-style-type: none"> <li>5 Raw Material Prices</li> </ul>	Supplier management	<ul style="list-style-type: none"> <li>• E.SUN collaborated with external consultants to introduce AR6 scenario data, domestic disaster potential data, and analytical techniques. We conducted a physical risk assessment of our properties from 2030 to the end of the century to plan adaptation measures for service locations. By 2025, we aim to reduce high-risk locations to within 2%, and existing high-risk locations will be monitored or prepared early for extreme weather reports to reduce climate impacts.</li> </ul>
	<ul style="list-style-type: none"> <li>2 Stricter regulations</li> <li>7 Negative News/Litigation Risk</li> <li>8 Green-washing risk</li> </ul>	Compliance and reputation	<ul style="list-style-type: none"> <li>• Implement sustainable procurement standards to manage suppliers.</li> <li>• Establish measures to avoid green-washing in the provision of green financial products and services and set up mechanisms for internal control.</li> </ul>

# CH4 Business Operations Integration

[4.1 Corporate Banking](#)

[4.2 Consumer Banking](#)

[4.3 Credit Card](#)

[4.4 Investing](#)

[4.5 FinTech and Innovation](#)

[4.6 Operation Management Measures](#)

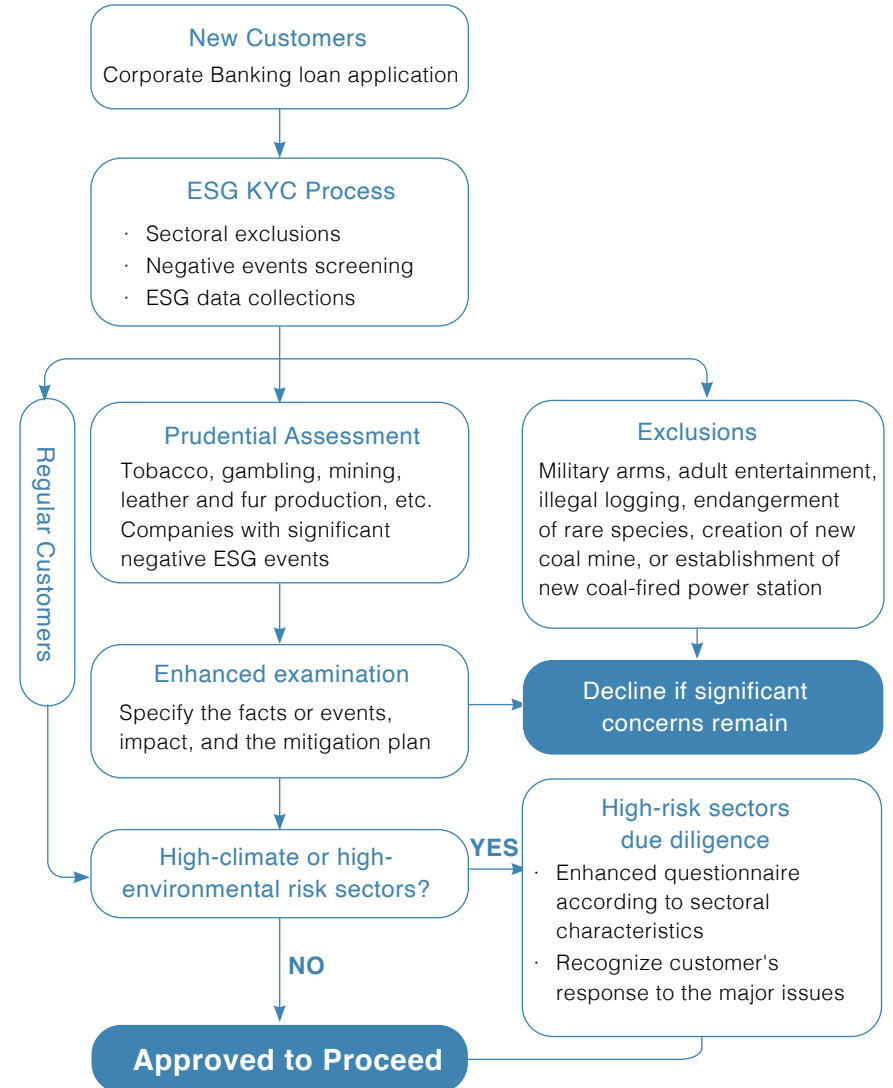
[4.7 Natural Environment and Biodiversity Preservation](#)

# 4.1 Corporate Banking

## Corporate Banking Climate and Environment Risk Management Mechanisms

E.SUN adheres to our "Sustainable Finance Policy" to develop responsible lending and various sustainable financial products. We identify environmental and social (E&S) risks and incorporate ESG risk factors into our lending decision processes to manage these risks effectively. Each loan case is reviewed to determine if it involves pollution or other negative issues. Transactions involving coal-fired power generation, coal mining, illegal deforestation, wildlife endangerment, controversial arms, and adult entertainment are avoided. Business activities related to tobacco, gambling, mining, and oil exploration with potential environmental risks require careful evaluation and enhanced scrutiny.

- For high-climate-risk industries, such as coal-related businesses (power, mining, trading, etc.) and unconventional oil and gas extraction (oil sands, shale oil & gas, polar oil & gas, etc.), E.SUN has established check and control mechanisms in our credit process based on the "Guidelines for the Phase-Out of Coal and Unconventional Oil & Gas Industries of E.SUN FHC" policy. If these activities account for a certain percentage of the entity's revenue, case-by-case control measures are implemented to divest from such activities gradually.
- For large-scale project finance in sectors such as energy and infrastructure, E.SUN has adopted the Equator Principles for E&S risk rating and management since 2015. The E&S responsibilities throughout the development process are carefully assessed, and E&S impact monitoring and improvement plans are required at different risk levels. Following the 4th edition of the Equator Principles (EP), each project finance case is analyzed for its climate risks, pollution, biodiversity, and other significant issues. As of June 2023, E.SUN has undertaken 46 EP-related projects.
- E.SUN continuously enhances climate and environmental risk management mechanisms. We encourage companies to disclose information on carbon emissions, water usage, and electricity consumption. Tailored checklists are designed in the enhanced review process to address different climate and environmental risks based on specific industry characteristics. The credit approval process is strengthened to assess these risks, guiding relationship managers to focus on industry-specific ESG issues and better understand how to address related risks.
- Regarding collaterals with climate risks, such as properties in high-flood-risk areas, E.SUN reduces the LTV ratio and requires relevant insurance coverage to ensure effective physical risk management in the credit process.



## Carbon Management Corporate Loans

E.SUN demonstrates responsible lending practices by incorporating PCAF methodology (Partnership for Carbon Accounting Financials) in our carbon inventory. We use SBTs (Science-Based Targets) and internal carbon pricing mechanisms to guide credit resources. Carbon-intensive borrowers are monitored, and efforts are made to assist industries and clients in their low-carbon transition.

### (1) Science-Based Targets (SBT)

E.SUN follows the SBTi (Science-Based Targets Initiative) guidelines to set medium- to long-term carbon reduction goals. Clear carbon reduction pathways and targets are established for three major credit asset categories: project financing for power generation, commercial real estate, and medium to long-term loans for non-SMEs. Carbon-intensive borrowers related to these targets are managed through annual tracking of carbon intensity changes and analysis of target achievements. In addition, we encourage active engagement in low-carbon businesses and increasing dealings with entities with carbon reduction targets.

### (2) Internal Carbon Pricing in Credit Operations

E.SUN began developing an internal carbon pricing mechanism in 2021, officially implemented in July 2022. This mechanism aims to raise awareness among corporate banking business units about the risks of transitioning to a low-carbon economy and the impact of carbon costs. Features such as carbon intensity rating and estimation tools for carbon emissions assist in credit portfolio management.

- Internal carbon pricing reports reveal the carbon emissions associated with credit borrowers, converting them into more easily understood carbon cost concepts. Management tools aid business units in estimating future carbon emissions.
- International carbon trading mechanisms, including the World Bank's global carbon market-weighted price and international decarbonization pathways, are considered in cost calculations for excess carbon emissions. Incentives are provided through mitigation mechanisms to encourage more green credit and sustainable financing, reflecting the emission reduction achievements of credit borrowers.
- In 2023, integrating internal carbon pricing with business performance evaluations is planned, gradually embedding carbon cost concepts into credit processes, thereby enhancing climate risk response capabilities.

## Taking Concrete Actions to Expand Positive Sustainable Impact

E.SUN's dedicated sustainability team continues to engage in discussions on ESG and climate-related issues with corporate customers. As of September 2023, we have engaged with 157 companies (92 in 2021) in sustainability development, enabling them to proactively address international trends and external requirements in ESG. Key issues addressed include carbon border tariffs, energy trends, and domestic and international regulations regarding climate and environmental matters. E.SUN encourages customers to actively reduce carbon emissions and prioritize environmental involvements through sustainable-linked loans and green loans, working together towards the goal of achieving net-zero emissions.

### Biodiversity Linked Loan with Yulon Motor

E.SUN leads the way in aligning with international sustainability trends by signing Taiwan's first "Climate and Biodiversity Sustainability Linked Loan" in collaboration with Yulon Motor. This loan encourages businesses to take diverse, sustainable actions by considering climate performance and biodiversity investments, working towards the global 2050 net-zero goal and 2030 30x30 goal in nature protection. During the loan term, E.SUN tracks the company's GHG emissions reductions and the proportion of renewable energy generated. We also encourage the company to establish the rehabilitation of native tree species in Taiwan as a biodiversity indicator. This move demonstrates the shift from encouraging climate actions to incorporating biodiversity consideration as part of the company's sustainability strategy. E.SUN continues to promote nature-based solutions, expand the positive impact of sustainable finance, and embark on the path of sustainable business operations with customers.

## High Carbon Emission Companies Engagement Progress

In response to the growing need for businesses to expand their social impact and provide valuable financial services, E.SUN has established a dedicated sustainability team to leverage its financial influence and turn transformation challenges into opportunities, enhancing the international competitiveness of Taiwan's industries. E.SUN's main engagement approaches include ESG advocacy actions, one-on-one ESG consulting, and engagement with high-carbon industries. Based on the "E.SUN FHC Sustainable Development Engagement Guidelines" and "E.SUN FHC Sustainable Development Voting Guidelines," E.SUN prioritizes engagements with high-carbon-emission domestic companies in its investment and financing portfolio, presenting them with the latest international trends, Taiwan's environmental policies, criteria for identifying sustainable economic activities in Taiwan, and suggestions for implementing carbon audits. These efforts aim to promote the sustainability performance and long-term value of investment and financing customers.

As a member of the Coalition of Movers and Shakers of Sustainable Finance, E.SUN has pledged to take more proactive actions in five major areas: green procurement, investment and financing engagements, information disclosure, assistance and promotion, and international alignment. In the "Investment and Financing Engagements" category, one of the goals is to engage with more than half of major domestic investment and financing entities with high carbon emissions by the end of 2025 and encourage them to set Net-Zero targets before 2050. For enterprises with Net-Zero targets, they are encouraged to set more ambitious goals.

### The progress of engagement with high-carbon enterprises in the major investment and financing positions is as follows

Currently ongoing, there are a total of 209 high-carbon enterprises (200 for financing and 9 for investment).

#### Financing

As of June 2022, have completed engagements with 61 companies, with 12 of them having set 2050 decarbonization targets. The engagement completion rate is 31%, and the proportion of engaged companies with 2050 decarbonization targets is 20%.

	2022/12 Financing Positions/Percentage	2023/06 Financing Positions/Percentage
Number of high carbon emissions companies among major investment and financing portfolio (A)	200	200
Number of completed engagement deals in A in 2022 (B)	22	61
Number of companies in B that have set a carbon reduction target for 2050 in 2022 (C)	8	12
Completion rate of engagement deals (B/A)	11%	31%
Proportion of engaged companies that have set a carbon reduction target for 2050 (C/B)	36%	20%



## 4.2 Consumer Banking

### Consumer Banking Carbon Reduction Initiatives

*"Assisting the sustainability transitions of the franchising industry and promoting environmental sustainability and harmony"*

#### FamilyMart Franchise Loan Project

E.SUN is committed to combining the power of third-party partners to exert influence to jointly assist businesses in sustainability transitions. In February 2023, E.SUN collaborated with FamilyMart convenience stores to launch the "FamilyMart Franchise Loan", the industry's first sustainable performance-linked loan applied to the franchise industry. It aligns the credit conditions with the power intensity of the Ministry of Economic Affairs' energy efficiency index and continuously tracks the stores' energy efficiency during the loan period. If the goals are achieved, interest rate discounts are offered to encourage franchise stores to effectively utilize power resources and move towards sustainable development goals.

*"Helping agricultural land factories legalize and supporting enterprises in carbon reduction transformation"*

#### Specific Factory Loan Project

In response to the government's goals of "Boosting the economy, Prioritizing environmental protection, and Protecting agricultural land", E.SUN launched the "Specific Factory Loan Project" in 2023 to help small and medium-sized enterprises promote factory legalization. It encourages businesses to improve the production environment in their factories, effectively control wastewater discharge, and promote the establishment of green spaces and solar power generation facilities, aiming to achieve a balance between economic development, employment for residents, and environmental protection. This project aims to create a three-way value of sustainable development for enterprises, E.SUN, and the environment.

*"Encouraging the choice of environmentally friendly green buildings and joining hands with customers to practice greener living"*

#### Green Building Mortgage & Building Energy Efficiency Labeling Project

According to a United Nations report, the construction industry accounts for 37% of global carbon emissions. Green buildings consume the least amount of natural resources and produce the least amount of waste during their lifecycle, meeting the criteria of "ecology, energy-saving, waste reduction, and health." They are an important trend towards sustainable development. Therefore, E.SUN introduced the "Green Building Mortgage & Building Energy Efficiency Labeling" project to support customers in choosing green buildings that coexist with ecology, energy-saving, and carbon reduction when purchasing houses. The project encourages the use of the building energy management tool "Building Energy Efficiency Labeling" to improve energy efficiency. This initiative is in line with Taiwan's government's pathway to achieve net-zero carbon emissions by 2050 and promotes greener living with customers.

*"Responding to government digitization and net-zero pathway, assisting businesses in low-carbon and smart transition"*

#### Low-Carbon Smart Transition Loan Project

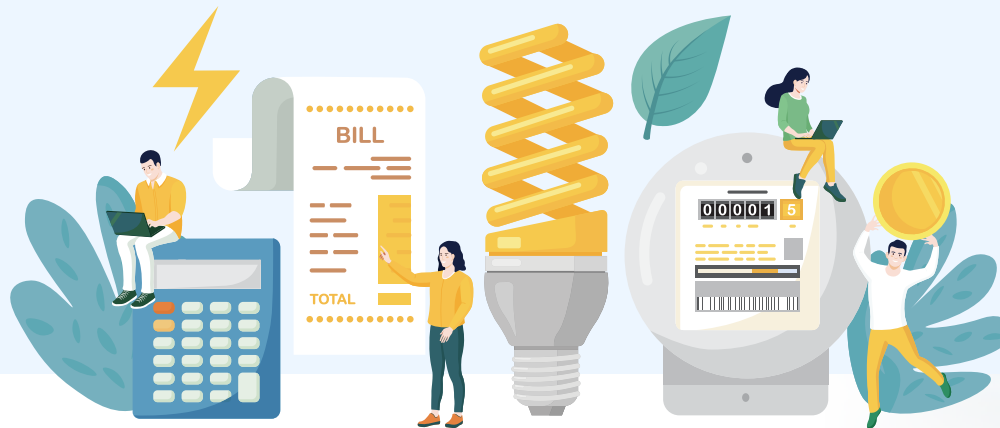
Climate change and digitization have become major concerns in recent years. Many companies have integrated eco-friendly or intelligent features into their operations. However, the global economic downturn still affects some small and medium-sized enterprises, resulting in insufficient motivation to transition. E.SUN has implemented the "Low-Carbon Smart Transition Development Loan" to help these businesses fund their transition process. In addition, we have set up a dedicated section for Low-Carbon Smart Management Loans and a portal on the Economic Development Bureau's webpage to assist customers in quickly understanding the solutions and obtaining funds smoothly. E.SUN encourages enterprises to adopt low-carbon and intelligent transitions to improve their market competitiveness with government and financial support.

## Energy-saving Incentive Program for Mortgage Loans

In response to Taiwan's 2050 Net Zero Carbon Emission Policy, E.SUN launched the "Energy-saving incentive program for mortgage loans" in 2023 to encourage mortgage customers to reduce their electricity consumption in their daily lives. Through SMS and eDM, E.SUN engaged with 72,823 customers to promote the ESG concept of energy conservation. Customers provide their electricity consumption information, and those who rank among the top 1,000 in reducing their electricity usage (compared to the same period last year) and complete designated tasks are rewarded.

*Working together with customers to practice low-carbon living and collectively promote environmental sustainability.*

- ✔ Successfully reduced electricity consumption by **28,506** kilowatt-hours.
- ✔ Equivalent to a reduction of **14,110** kilograms of CO<sub>2</sub>e carbon emissions.



### Case Study: Engaging with our Customer for Carbon Reduction

Mr. Chen, a store owner, started his FamilyMart convenience store franchise and expanded to three branches over the past decade. He learned about climate change issues through E.SUN Bank's website and discovered the FamilyMart Franchise Loan project. This project provides him with the working capital needed for his store's operations and offers more favorable loan interest rates if he achieves energy-saving goals during the loan period. Therefore, he also hopes to undergo a sustainable transition in his store. His plans include installing an IoT monitoring and management system, switching to lower emission air conditioning equipment, and converting lighting fixtures and signage to LED, etc., to respond to energy-saving and carbon reduction efforts and protect the natural environment.



### Integrating Climate Risk into the Credit Approval Process

Loan Application	Credit Investigation and Valuation	Risk Assessment	Contract Signing and Disbursement	Post-loan Management
	<p>The credit check unit performs credit checks and appraisals based on the information provided by the business unit. It checks whether the case is listed on the Soil and Groundwater Pollution Remediation Act and whether it is on dangerous slope land. Furthermore, E.SUN has planned to integrate its internal physical risk database into real estate valuation reports, adding a classification system for flood risk (e.g., high flood risk). This enables appraisers to make necessary adjustments to the value of collateral with high climate risk and strengthen risk management measures effectively, ensuring a comprehensive assessment of the case's credit, social, and environmental risks.</p>	<p>The review unit conducts independent and professional assessments of real estate collateral cases, categorizing risk based on the jurisdiction of the credit business unit, including climate risk factors. For small business credit cases, a proactive investigation of potential ESG risks for customers is conducted. In 2022, a total of 5,873 cases underwent ESG risk assessments.</p> <p>On the part of the environment, it is necessary to verify if the applying company has been subjected to environmental pollution penalties. From a social aspect, consideration is given to whether the responsible individuals or individuals involved have engaged in illegal fundraising or violated labor standards. This promotes customer awareness of environmental and social issues. In 2022, E.SUN rejected 12 cases due to violations of ESG principles, such as environmental pollution and labor law violations.</p>	<p>After the assessment and evaluation process has been approved, the business unit proceeds with the subsequent contract and collateral management based on the review results. To safeguard E.SUN Bank's rights, appropriate fire insurance and basic earthquake insurance coverage are included in the contract to minimize losses from typhoon or flood incidents. This ensures that adequate insurance protection is in place to mitigate potential damages.</p>	<p>To continuously monitor climate risks and prevent significant impairment in the value of real estate collateral, E.SUN analyzes the real estate collateral annually to understand the impact of climate change on the collateral value. In addition, E.SUN conducts mid-term check management to enhance the annotation for real estate collateral with high flood risk.</p>

## Protecting Biodiversity and Supporting TNFD

### "Promoting sustainable agricultural development, Creating sustainable ecological environment " - Traceable Agricultural Product (TAP) Loan Project

In response to the United Nations Global Biodiversity Framework and the TNFD guidelines, E.SUN has collaborated with the Agriculture and Food Agency(AFA) and Corporate Synergy Development Center(CSD) to launch the "Traceable Agricultural Product (TAP) Loan Project."

This project aims to assist microbusinesses in obtaining the necessary funds for the verification process and support them in acquiring sufficient operating funds for traceability management.

To qualify for the project, microbusinesses must meet the requirements of Taiwan Good Agriculture Practice (TGAP), which includes important sustainability elements such as integrated pest management, net-zero carbon emissions, and biodiversity conservation.

To enable more microbusinesses to understand TGAP and the traceability verification process, E.SUN and the AFA jointly organized the "Promotion of Traceability Verification Policy and Experience Sharing Workshops" in Taipei and Tainan on May 25th and June 1st. Through counseling and financial resources, the aim is to encourage more microbusinesses to participate in traceability verification.

In terms of marketing TAP products, E.SUN has established a TAP section on its employee website, where 15 selected sustainable agricultural product operators were recommended. With the support of E.SUN employees to promote environmentally friendly agricultural products, it contributes to preserving biodiversity.

In the future, E.SUN will continue collaborating with partners from different industries to assist more agricultural product operators in practicing sustainable agriculture.

Through financial influence and collaboration between the public and private sectors, we will jointly support environmentally friendly products and promote ecological sustainability.



E.SUN employees support sustainable agriculture by purchasing TAP products through practical actions



E.SUN promotes the TAP loan project by participating in the "Promotion of Traceability Verification Policy and Experience Sharing Workshops"



## 4.3 Credit Card

To make daily spending more environmentally friendly, E.SUN actively leverages the influence of green finance and collaborates with partners from different industries to develop green spending initiatives. We provide exclusive rewards for green spending to encourage customers to choose green in their daily lives so they can also contribute to the planet's sustainability while they shop. E.SUN hopes that by taking small steps to change consumption habits, we can significantly contribute to a sustainable Earth and build our vision of a green payment ecosystem with our customers.

### ESG Credit Cards

#### E.SUN Visa Signature Tree Planting Project

Tree planting helps in carbon sequestration to mitigate climate change, increases vegetation, and provides habitats for wildlife. To enhance Taiwan's forest biodiversity, E.SUN has launched the "E.SUN Visa Signature Card", the country's first credit card that combines environmental conservation and public welfare. In cooperation with the Forestry Bureau, E.SUN initiated the "Plant a Tree, Plant a Life" program, allowing cardholders to contribute to the project through everyday purchases. For customers who opt for electronic or mobile bills, E.SUN donates 0.2% of the transaction amount for tree planting. Over 40,000 native tree seedlings capable of absorbing 720.9 tons of carbon dioxide annually have been planted.



#### Black Bear Affinity Card - Taiwan's First Public Welfare Credit Card with Conservation and Environmentally Friendly Concepts

Taiwan's black bears' habitat gradually diminished as our economy developed, leading to a survival crisis. E.SUN partnered with the Taipei Zoo to contribute 0.2% of customers' transaction amounts to the Taipei Zoo Animal Conservation Fund. E.SUN has accumulated over NT\$10 million in donations, supporting initiatives such as black bear conservation, habitat protection, native animal recovery, and environmental education. In addition, cardholders of this card can enjoy triple reward points when donating to the Taipei Zoo, the Animal Protection Association of the ROC, and the Taiwan Environmental Information Association.



#### Digital e-Card

In response to the trend of digitization and to reduce paper use, E.SUN launched the Digital e-Card in 2022, the first entirely virtual card on the market. No physical card is provided, and the application process is 99.5% online. This reduces carbon emissions from card production by 900 grams per card, equivalent to an annual reduction of 70.5 metric tons of carbon emissions. E.SUN collaborates with green merchants to provide exclusive rewards for designated green spending. Over 80,000 cardholders have already adopted sustainable living practices.



### Leveraging the Power of Consumption with Partner Industries

#### Carrefour Co-branded Card

To enhance consumer green awareness and promote sustainable consumption, E.SUN partners with Carrefour to provide exclusive benefits for cardholders of the E.SUN Carrefour co-branded card when purchasing "Starting from i" sustainable transition products. Cardholders can win a trip to the source of agricultural products, experiencing the journey from farm to table. Organic food days offer weekly discounts on organic products, encouraging cardholders to contribute to the planet's sustainability through their consumption choices.



#### EasyCard Public Transportation Rides

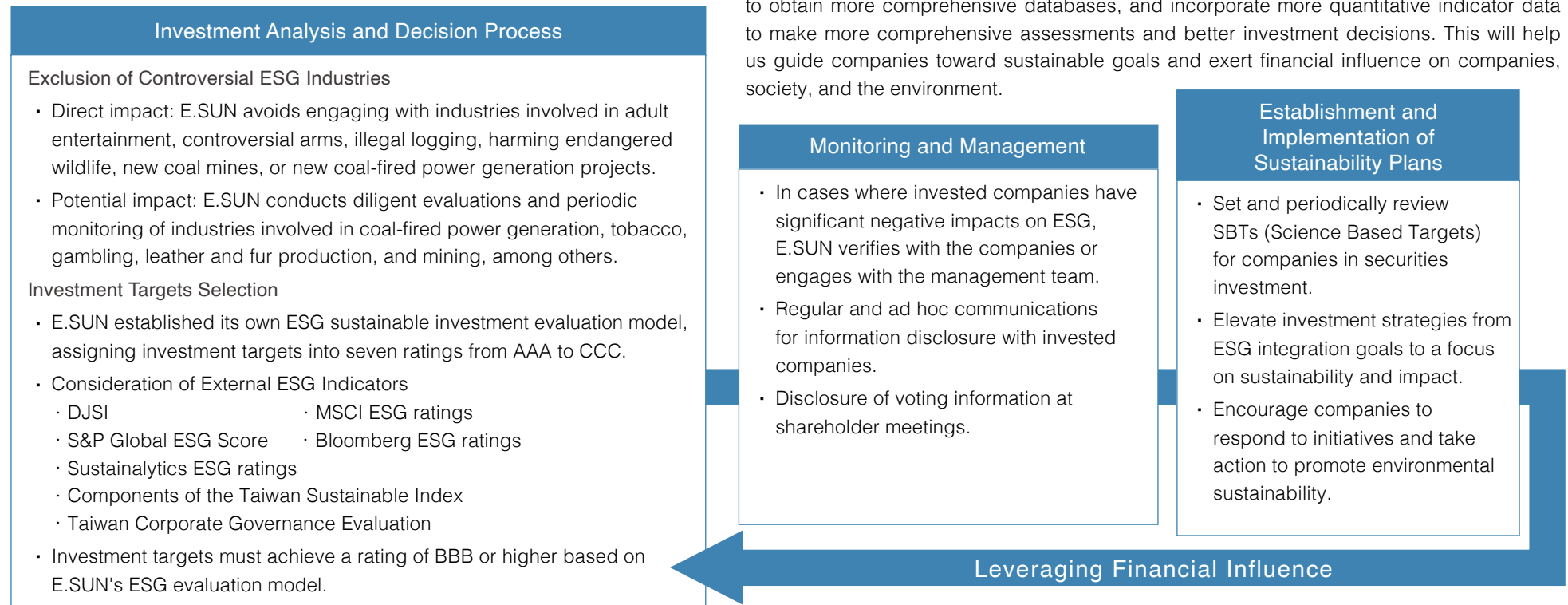
According to estimates from the Bureau of Energy under the Ministry of Economic Affairs, if car commuters switch to public transportation one day a week, carbon emissions can be reduced by 1.52 million metric tons annually. To encourage customers to achieve zero emissions by changing their transportation habits, E.SUN provides free YouBike rides for E.SUN EasyCard co-branded cardholders who meet the designated spending threshold. This initiative effectively reduces the planet's carbon burden, with cardholders taking up to 360,000 rides per month.

## 4.4 Investing

E.SUN values the ESG performance of the invested targets, referencing the Principles for Responsible Investment (PRI), and incorporates ESG-related issues into our investment analysis and decision-making processes. E.SUN has established the "Securities Sustainable Investment Management Principles" to set up a management mechanism for high ESG risk companies. E.SUN avoids engaging with industries or companies that directly impact the environment and society. For companies with potential impacts, E.SUN sets up rigorous assessments and monitors them regularly. Only when it is determined that there is no significant adverse impact on ESG sustainable development will the investment be made.

### ESG Evaluation of Investment Targets

E.SUN recognizes the significant impact of ESG-related issues on investment performance, decisions, and analysis. We have developed the E.SUN ESG Sustainable Investment Evaluation Model, which incorporates ESG indicators from reputable domestic and international organizations for screening. These include MSCI ESG ratings, S&P Global ESG scores, Bloomberg ESG scores, Taiwan Corporate Sustainability Awards, Sustainalytics ESG risk ratings, components of the Taiwan Sustainable Index, and Taiwan Corporate Governance Evaluation. After weighing and incorporating SBT and carbon cost considerations, the ratings are divided into seven levels, from AAA to CCC. E.SUN will continue to improve its ESG evaluation model in the future, collaborate with domestic and international institutions to obtain more comprehensive databases, and incorporate more quantitative indicator data to make more comprehensive assessments and better investment decisions. This will help us guide companies toward sustainable goals and exert financial influence on companies, society, and the environment.



## 4.5 FinTech and Innovation

### Introduction

E.SUN has long been dedicated to the development of financial technology. With over 1,300 technology talents, the Technology Division is responsible for overall digital development, intelligent applications, information research and development, and cybersecurity management. Through cross-team collaboration and continuous improvement, E.SUN enhances the efficiency of digital financial technology. Information is like the organization's nervous system, AI is the brain, digital technology is the flexible limbs, and cybersecurity is the immune system. All of these components are indispensable to becoming a robust and organic system. E.SUN has achieved fruitful results in intelligent finance, inclusive finance, and scenario-based finance. It was the first bank in Taiwan to deeply integrate artificial intelligence into various businesses and the first to build its core system using open cloud-native technology and microservices architecture. In recent years, E.SUN has actively embraced agile methodology and explored cloud applications. Over the past three years, over 80% of fund subscriptions, 96% of loan applications, and 99% of forex transactions were completed through digital channels. The e.Fingo digital membership has an active rate of up to 97%. The specific achievements are outlined as follows:

**99%** of FOREX transactions were completed through digital channels

**96%** of loan applications were completed through digital channels

**95%** of transfer transactions were completed through digital channels

**80%** of fund subscriptions were completed through digital channels

**79%** of credit card applications were completed through digital channels

**50%** of deposit account openings were completed through digital channels

### Supporting Services

**Digital Infrastructure** | Through E.SUN's technological capabilities, the continuous promotion of digital transformation infrastructure is carried out. E.SUN is committed to green energy and creating sustainable environmental value to fulfill its everlasting promise.

Topic	Strategic direction
AI technology	The E.SUN AI Development Cloud serves as the primary development environment for E.SUN's AI initiatives, providing data scientists a platform for data processing, modeling, testing, and sharing. It fosters innovative exploration, much like a sandbox, and has nurtured multiple mature and stable AI models. The MLaaS (Machine Learning as a Service) platform developed by E.SUN already offers more than 50 AI services. These services allow for quick and highly flexible deployment and usage of AI model APIs, making it a crucial bridge between mature AI models and business systems.
Operational resilience	To enhance network stability, a new form of wide-area network connectivity architecture has been implemented in overseas branches.
Resource utilization efficiency	In order to achieve optimal allocation of information resources, services are provided through virtualized environments and private clouds. Monitoring and management tools are implemented to collect and analyze resource usage trends for resource elasticity scheduling. To enhance team collaboration capability and overall productivity, collaboration platforms and digital tools are being extensively incorporated into the information system development process.
Agility and flexibility	Starting in 2022, the container platform usage scope will expand, and provisions will be made for flexibility to incorporate public cloud infrastructure. The diversity and high availability of cloud services, complemented by on-site services, meet the information service needs. At the same time, the security of using cloud services is ensured through the information security management framework.
Information security monitoring	Improve existing processes and utilize automated integration techniques to accelerate incident response times and enhance the incident response investigation skills of the SOC proactive security monitoring center team. Expand overall risk visibility and effectively reduce the impact of incidents.

## Financial innovation applications

### Digital Process Optimization, Service Without Interruption

<p>Optimization of digital account opening process experience</p>	<p>Using Intelligent models to identify high-risk customers and applying two sets of OCR (Optical Character Recognition) technology for cross-checking document information, along with the use of RPA (Robotic Process Automation) technology and optimizing the approval process to reduce repetitive manual review and release manpower time, the fastest time required for human review is just 3.1 minutes per case, reducing the waiting time of customers by 80% and down to 4 hours.</p>
<p>Sinyi Realty - Property Automated Valuation Cooperation</p>	<p>In collaboration with Sinyi Realty Inc. in 2022, customers will be able to use and instantly obtain E.SUN's automated property valuation model calculation results 24/7. This will reduce the waiting time for customers to assess their mortgage limits manually and enhance their service experience</p>
<p>E.SUN Mobile Banking</p>	<p>E.SUN Mobile Banking integrates multiple innovative services, obtaining 11 design patents, 17 new model patents, and 7 invention patents. We achieved high growth in both the number of digital users and the frequency of digital interaction, with over 70% of active users using mobile banking, and will continue to focus on the customer experience and provide diverse services:</p> <ul style="list-style-type: none"> <li>(1) Multiple Authentication Modules: We offer up to 9 verification methods, including voice OTP, SIM card authentication, ATM verification code, and face/ fingerprint recognition. Customers can freely choose verification methods according to their habits, scenarios, and services while ensuring transaction safety.</li> <li>(2) Contactless Integrated Financial Services: Customers can use video services to apply for various financial services through E.SUN Mobile Banking, and complete financial transactions with one click through E.SUN's "Fast and Easy Wealth Management" service. Break the limitations of time and space to create a friendly new financial milestone.</li> </ul>
<p>E.SUN Wallet</p>	<p>E.SUN opened E.SUN electronic payment services to both E.SUN Bank customers and non-customers through E.SUN Wallet, expanding the accessibility of E.SUN Wallet's financial services. It has become Taiwan's first digital platform jointly owned by a bank and an electronic payment service provider. In addition, E.SUN Wallet has added the functionality of linking with a E.SUN Bank account or loading their E.SUN credit cards for payment. This expansion has increased E.SUN Wallet's payment coverage from credit cards to all 250 thousand channels of Taiwan Pay. E.SUN also created the first card number checking service on a payment App in Taiwan. This means that cardholders can shop at physical and digital channels by loading their card number onto the E.SUN Wallet App and international mobile payment services before they receive their physical cards.</p>
<p>E.SUN Extremely Fast Revolving Loan</p>	<p>E.SUN Bank offers customers flexible small loan choices. Customers can decide on their desired loan amount and repayment period, and interest is only calculated on the amount utilized. This meets the needs of short-term cash flow or daily expenses.</p>

## 4.6 Operation Management Measures

### Formal Membership in RE100

E.SUN is committed to Net-Zero and actively promotes using renewable energy. In 2022, we officially became the first financial institution in Taiwan to join the RE100 as a "low electricity user." We join over 300 leading companies worldwide in declaring 100% renewable energy use. E.SUN's membership in RE100 marks a significant milestone in its journey towards net-zero emissions. In the future, we will continue to use its financial resources to guide the transition to a decarbonized energy system and contribute to global climate goals.

In response to the pressures and challenges of achieving Net-Zero, using clean energy is becoming a global trend. E.SUN has pledged to achieve 100% renewable energy usage in its domestic locations by 2030, gradually increasing green energy use by 10% annually. In addition to utilizing self-generated solar power, E.SUN actively engaged with electricity suppliers in 2020 to plan for green energy procurement. We signed power purchase agreements after analyzing our electricity consumption and discussing suitable locations and power generation methods with external energy providers. After undergoing reviews by Taiwan Power Company, the Bureau of Energy, local governments, and certification authorities, E.SUN completed its first green energy supply transfer in December 2021 after nearly two years of effort.

E.SUN will continue to expand its scope of green energy usage. We have accumulated four green energy supply contracts, with an estimated annual renewable energy generation of 10.85 million kilowatt-hours, covering approximately 22.6% of its total energy usage. In 2022, E.SUN has already utilized 6.54 million kilowatt-hours of renewable energy, establishing itself as a leading indicator in Taiwan's financial industry.

E.SUN is actively building a sustainable working environment, demonstrating its commitment to achieving 100% green energy usage by 2030 and striving to become a zero emissions bank by 2050 through green buildings, solar-powered branches, and green energy procurement efforts.

### Taiwan's First Financial Institution to Achieve LEED V4.1 O+M Platinum Certification

LEED is an international green building certification system developed by the U.S. Green Building Council (USGBC). It assesses seven categories: energy and atmosphere, water efficiency, materials and resources, indoor environmental quality, location and transportation, sustainable site development, and design innovation. Each update sets a higher challenge. E.SUN Bank's Nanzih Branch and Linyuan Branch are over 15 years old; as they continue to build their business steadily, we also transformed them into more environmentally friendly branches. Energy and resource efficiency have been enhanced by using energy-efficient LED lighting, energy-saving air conditioning equipment, and water-efficient fixtures.

Additionally, we installed solar power generation equipment on the rooftops and purchased green energy to reduce carbon emissions. By improving space design, indoor air quality is maintained through natural ventilation, providing employees with a comfortable and healthy working environment. Maintenance and management systems are established for energy, equipment, and waste, ensuring that all environmental indicators meet the LEED standards and exceed international averages. As a result, E.SUN became the first financial institution in Taiwan to successfully achieve the highest level Platinum certification under LEED V4.1 O+M.

Obtaining this high-standard international green building certification is an honor and a responsibility. In the future, E.SUN will continue to improve its operational energy efficiency and strive to create more low-carbon and environmentally friendly buildings, demonstrating its commitment to sustainable development.

## Renewable Energy

- Signed green energy supply contracts, currently supplying renewable energy to four main office buildings and nine branch locations. The estimated annual renewable energy generation is about 10.85 million kilowatt-hours, covering approximately 22.6% of the bank's total energy consumption. In 2022, E.SUN has already used 6.54 million kilowatt-hours of renewable energy, equivalent to reducing 3,328.9 tons of carbon emissions.
- Installed solar panels at 23 locations with a total capacity of 200.87 kilowatts (kW), generating approximately 242,000 kilowatt-hours annually, equivalent to reducing 123.4 tons of carbon emissions.
- Purchased renewable energy certificates (T-RECs and I-RECs) for six consecutive years, accumulating 485 and 2,575 certificates, respectively. Assisted our China subsidiary in purchasing 630 "Green Power Certificates," bringing the total to 3,690 certificates, equivalent to 3.69 million kilowatt-hours of green energy and a reduction of 1,916.8 tons of carbon emissions.

## Air Conditioning Energy Efficiency

- Replaced and improved outdated air conditioning systems.
- Regular maintenance and installation of circulating fans.
- In 2022, achieved annual energy savings of approximately 155,000 kilowatt-hours, equivalent to reducing 78.9 tons of carbon emissions.

## Lighting Energy Efficiency

- Replaced old energy-consuming lighting fixtures with energy-efficient LEDs and installed motion-sensing lighting equipment.
- In 2022, achieved annual energy savings of approximately 346,000 kilowatt-hours, equivalent to reducing 175.9 tons of carbon emissions.
- Independently turned off signage lights during peak electricity consumption periods for six consecutive years. In 2021, the number of days with this practice increased from 100 to 130, resulting in a cumulative energy savings of 431,000 kilowatt-hours over six years, equivalent to reducing 226.5 tons of carbon emissions.

## Green Buildings

- Eight locations have obtained LEED certifications, including two Platinum certifications for the Nanzih and Linyuan branches, and six Gold certifications for the E.SUN Technology Building and E.SUN Hope Building data centers, E.SUN Human Resource Development Center, E.SUN Second Headquarters building A, and branches in Chiayi and Dali.
- Ten locations have obtained EEWB certifications, including three Gold certifications (E.SUN Second Headquarters building A and B, and the Rende branch) and seven Qualified certifications (Chiayi, Daya, Yuanlin, Toufen, Anan, East Tainan, and Shalu branches).

## Management and Certification

- Implemented ISO 50001 Energy Management System, analyzing key factors influencing energy usage at E.SUN to establish an energy baseline, energy performance indicators, energy goals, energy management action plans, and energy management procedures.
- Implemented ISO 14064 Greenhouse Gas Inventory, verifying major emission sources of greenhouse gases through third-party verification and annually reviewing emissions from scopes 1, 2, and 3, expanding the scope to meet reduction targets.
- 3,452.3 tons of carbon emissions were reduced due to the use of renewable energy. 18 locations have obtained green building certifications

E.SUN, as a financial institution, has collaborated with 1,457 suppliers as of the end of 2022. These suppliers include service providers, equipment suppliers, and engineering contractors, categorized into computer equipment, telecommunications, human resources, furniture, printing materials, office supplies, renovation, and electromechanical engineering. There have been no significant changes in supplier categories.

### Sustainable Procurement

E.SUN has been implementing the ISO 20400 Sustainable Procurement standard since 2022 to establish a sustainable supply chain that respects the environment, human rights, and safety and promotes sustainable development. We have set common and specific standards for procurement, regularly evaluate suppliers' performance based on various qualitative and quantitative indicators, and conduct external audits to ensure compliance. Additionally, E.SUN prioritizes products or services provided by suppliers participating in the "Buying Power Social Innovation Product and Service Procurement Incentive" program promoted by the Ministry of Economic Affairs' Small and Medium Enterprise Administration. In 2022, our local supplier procurement rate reached 97%. To achieve SDG 12, "Responsible Consumption and Production," E.SUN actively implements green living and consumption policies promoted by the Environmental Protection Administration. We adhere to green consumption and environmental procurement principles and continuously cooperate with the "Green Procurement Implementation Program for Private Enterprises and Groups" promoted by the Environmental Protection Administration. E.SUN has been awarded the "Green Procurement Benchmarking Excellence Unit" by the Environmental Protection Administration for 13 consecutive years. In 2022, the declared amount of green procurement was 388 million NTD, with a cumulative procurement amount exceeding 1.978 billion NTD. Through our procurement demand, E.SUN aims to influence the supply side and promote the formation of a green supply chain in collaboration with supplier partners.



### Supplier Management

Starting in 2022, E.SUN has implemented a classification mechanism for supplier applications, distinguishing qualification requirements and review documents based on supplier type. Differential management is practiced following the "E.SUN Bank Supplier Management Guidelines." Collaboration is established with suppliers that adhere to the "E.SUN Financial Holding's Guidelines for Promoting Supplier Corporate Social Responsibility." These guidelines outline E.SUN Bank's requirements and expectations for suppliers regarding integrity, ethical principles, labor management, prevention of child labor, elimination of forced labor in all forms, absence of harmful labor rights violations, basic human rights, and occupational safety and health risks. Additionally, we formulated an audit mechanism, conducting regular reviews of service performance, risk indicators, and ESG factors through written and face-to-face inquiries to enhance supplier monitoring. This allows for prevention, handling, remediation, or control of potential adverse sustainability impacts. When establishing relationships with suppliers, qualification reviews are conducted, and review documents include the "Supplier Corporate Social Responsibility Self-Assessment Form" and the "Human Rights and Environmental Sustainability Clauses Commitment." Through the self-assessment form, E.SUN assesses suppliers' environmental protection measures, including whether they have environmental action plans and their responsiveness to green procurement. The scoring results for 2022 are as follows:

2022 Corporate Social Responsibility Self-Assessment Scoring Result		
Aspect	Average Scoring	Full Scoring
Business administration	24.8	25
Health and Safety	22.9	25
Human Rights and Labor Practices	34.3	35
Environmental Protection	14.1	15

In terms of our business operations, we require 100% of our important trading partners to sign a contract with integrity and operating conditions. In addition, to strengthen our control or influence over suppliers, we will require the requesting units to evaluate the transaction and inquire about the supplier's publicly available information to identify their risks. We will also confirm their current corporate social responsibility status and ESG sustainability performance changes through on-site or online visits.

### Sustainable Supply Chain Engagement

For our ongoing suppliers, we conduct visits to verify that their business operations, internal management, safety and health, and environmental standards align with our company's philosophy. During these visits, we also discuss ESG development direction and potential risks, encouraging suppliers to join us in early commitment to reduce their environmental impact. We require suppliers involved in higher-risk work, such as renovation contractors, to comply with occupational safety and health laws. The supplier's head and our E.SUN colleagues must provide safety and health training and promote awareness of hazards to ensure that workers are aware of work risks and minimize injuries during the operation. Additionally, we regularly organize supplier conferences to facilitate communication on the environment, social human rights, and sustainable concepts. We share government policies and resources related to social innovation and encourage suppliers to use innovative methods to solve social issues, achieving win-win results for social welfare and business profitability. By creating new consumption patterns in the production and consumption cycle, we strive to make responsible consumption a reality and have a positive impact.



### Supplier Climate Risk Analysis

To understand the potential impact of climate risks on suppliers and assess their indirect impacts on E.SUN, we have conducted assessments of the operational locations of key suppliers.

#### Physical Risks

Based on the assessment, the majority of physical climate risks in the three scenarios mentioned above have minimal impact on our company's supply chain. At most, only 4% of suppliers may be affected. We will advise suppliers with higher flood risk to implement flood prevention measures and equipment through on-site visits and supplier conferences. Although the current assessment indicates minimal impact on E.SUN's operations from suppliers, we will continue to evaluate the impact of climate risks on each supplier. If necessary, we will establish alternative procurement sources to mitigate risks associated with climate change and ensure our supply chain's resilience.

Unit: Housing Unit(s)

Description of scenario	SSP1-2.6		SSP2-4.5		SSP5-8.5	
	2030	2050	2030	2050	2030	2050
High risk						
Medium-high risk		2				1
Medium risk	1	3		2	2	4
Medium-low risk	9	5	10	8	8	5
Low risk	117	117	117	117	117	117

### Transition Risk

To understand the impact of carbon pricing conditions on the supply pricing of E.SUN 's suppliers, we have conducted assessments based on various scenarios of potential carbon pricing. Transition risks primarily consider the risk factor of suppliers passing on carbon-related costs, leading to an increase in E.SUN 's procurement costs. In the short term, we consider the carbon pricing under climate legislation. In the medium to long term, we consider scenarios from the International Energy Agency (IEA) and the Network for Greening the Financial System (NGFS).

The analysis is conducted by estimating the carbon emissions borne by procurement based on the carbon intensity of revenue in each industry sector and the procurement amount. We calculate the impact of the supplier's carbon cost passing through by estimating the carbon price under each scenario. The assessment results are shown in the table below.

If suppliers pass on the full cost of additional carbon fees to E.SUN, there will be an increase in the short, medium, and long term scenarios. To mitigate the risk of future carbon cost pass-through, we will encourage suppliers to establish strategies for adaptation and provide education and training to promote mutual benefits. By doing so, we aim to reduce costs and drive the sustainable development of our suppliers.

Description of scenario		(Short-term) carbon fees levied in response to climate change		IEA 2050 net zero scenario (Medium- and long-term)		NGFS 2050 net zero scenario (Medium- and long-term)	
		The carbon fee is NT\$300 per ton	The carbon fee is NT\$4,248 (US\$140) per ton	The carbon fee is NT\$7,585 (US\$250) per ton	The carbon fee is NT\$4,733 (US\$156) per ton	The carbon fee is NT\$13,259 (US\$437) per ton	
		2025	2030	2050	2030	2050	
Transfer amount (NT\$)	Manufacturing	4,228	42,503	106,899	47,361	186,860	
	Service industry	797,025	8,012,215	20,151,447	8,927,897	35,224,729	
	Retail industry	518,114	5,208,422	13,099,653	5,803,670	22,898,194	
The ratio of transfer amount of carbon fees to the procurement amount		0.03%	0.30%	0.76%	0.34%	1.33%	

Note1: The IEA's three scenarios of carbon pricing, the GEC Model 2022, assume that carbon pricing for energy-related industries applies to all industries under the scenario of advanced economies with net zero emissions pledges by 2050.

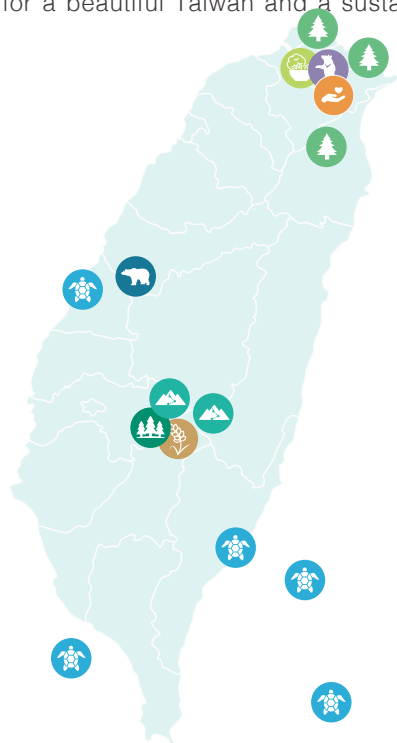
Note2: The NGFS adopts the MESSAGEix-GLOBIOM 1.1 Net Zero 2050 scenario for carbon pricing in Taiwan.

Note3: In the short term scenario, carbon fees are assumed to be levied based on emissions. In the medium to long term scenario, carbon-related costs are calculated through carbon trading (with a 29% reduction by 2030 and 100% reduction by 2050). Any shortfall in emissions reduction will need to be filled by paying the price of carbon.



## 4.7 Natural Environment and Biodiversity Preservation

E.SUN supports the Convention on Biological Diversity and promotes sustainable ecological development to fulfill the United Nation's sustainable development goals (SDG13 Climate Action, SDG14 Life Below Water, and SDG15 Life on Land). E.SUN's sustainable ecological development strategy comprises four focuses: Species Conservation, Habitat Preservation, Environmental Sustainability, and Employee Participation. We make use of our corporate influence to call upon employees, customers, and suppliers to implement environmental protection actions for a beautiful Taiwan and a sustainable Earth.



Positive Impacts on Nature	Emission Reduction/Sequestration	Regeneration of Nature Capital <sup>1</sup>	Increase in Ecosystem Services <sup>2</sup>	Pollution removal, reduction	Remove Invasive Species/Increase Native Species	Awareness Education
<b>Summer Solstice Lights Off</b> Over 6 years, saved a total of 444,980 kWh of electricity, reducing 226.5 tons of carbon emissions.						
<b>E.SUN-NTU ESG Centenary Project</b> 11,611 native trees planted in 2022						
<b>Millet Cultivation Revival Plan</b> Cultivated 28 native millet species						
<b>Plant a tree, Plant a life</b> 40,000 native tree seedlings planted						
<b>Formosan Black Bear Conservation Project</b> Totalled NT\$10 million in donations to Taipei Zoo						
<b>Polar Bear Environmental Education Project</b>						
<b>Resource Circulation and Charity Sale</b> 7,829 items donated						
<b>E.SUN Maravi Rice Project</b> 18.7ha of fields switched to organic farming in Lamuan						
<b>Beautiful Taiwan, Smiling E.SUN Environmental Cleanup</b> 165 events held						
<b>Adopting trails in Yushan National Park</b> 14 consecutive years						
<b>Sea Turtle Conservation &amp; Education Project</b> Rescued 61 and released 11 turtles in total						
<b>E.SUN Vegetarian Day</b> 49.97 tons CO <sub>2</sub> e reduced in 2022						

Note 1: Nature Capital is defined as the natural resources provided to humans or ecosystem services such as water, minerals, wood, biodiversity, etc. Includes ecosystems such as forests, grassland, swamps etc.  
 Note 2: Ecosystem services are the benefits from nature that are directly or indirectly provided to humans. It can be categorized into four main services: Provisioning, Supporting, Regulating, and Cultural.

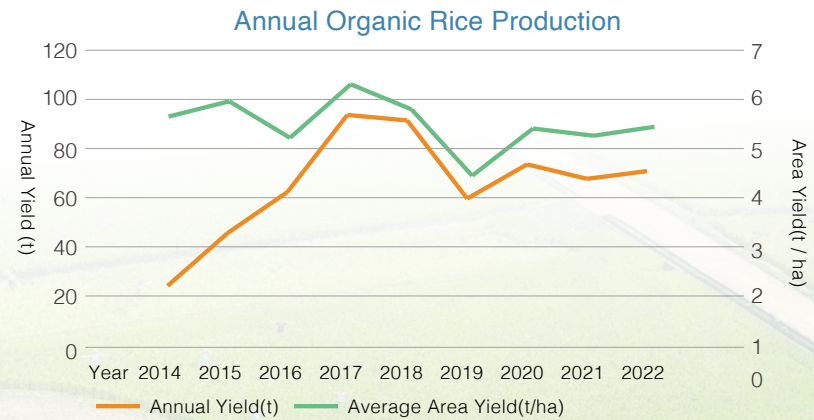
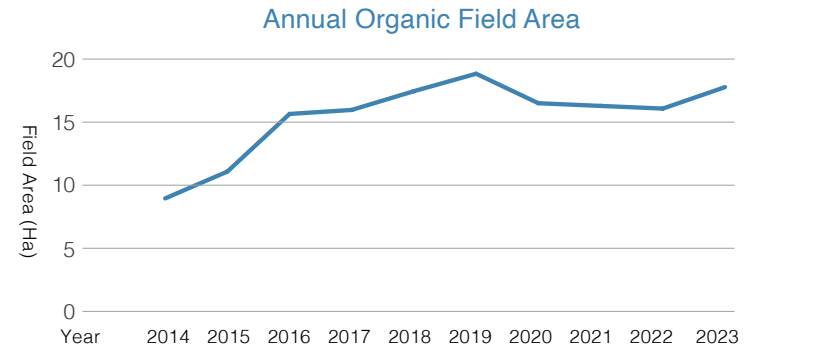
## E.SUN Maravi Rice Project - A decade in work towards harmony with nature

E.SUN began the "E.SUN Maravi Rice" project in 2014. The project collaborates with Tse-Xin Organic Agriculture Foundation and Yushan National Park Management Office to promote organic farming and industry transition, encouraging local farmers to convert to organic farming. By improving farming methods and conserving nature, the project aims to pass on the local indigenous culture and provide social care, achieving sustainability in agriculture and society. We gift Maravi rice to our customers and employees, bringing with it our culture of "Gratitude, Cherish, and Blessing" and sharing the joy that Taiwan's land brings us. Starting in 2019, the project introduced the "Satoyama Initiative" concept promoted by the United Nations Convention on Biological Diversity, aiming to create a harmonious coexistence between humans and nature on a larger scale. The Maravi Rice Project represents E.SUN's efforts to promote environmental conservation and express gratitude to customers while emphasizing the importance of sustainability in Taiwan.

### Beautiful Lamuan, the First Acre of Organic Fields of the Yushan Foothills

Lamuan Tribe is located in eastern Taiwan in Zhuoxi Township, Hualien County. Situated on a grain-shaped terrace formed by the Lakulaku River, the Bunun people who reside here have cultivated approximately 30 hectares of rice fields along the creek. Over the past ten years, with the support and efforts of this project and various sectors, over half of the fields have been converted to organic or eco-friendly cultivation.

- By introducing nature-based solutions (NBS) to replace conventional farming methods, an estimated 2.65 metric tons of chemical pesticides have been reduced since 2014, based on Taiwan's average pesticide usage.
- Reduce the use of highly toxic pesticides and avoid the use of herbicides. The improved fields cover an area of 25.2 hectares, with an estimated annual reduction of 150 kilograms of herbicide usage.
- Through environmental improvements, the population of plants and animals in the area has significantly recovered.
- Organic rice yield and quality have continued to improve through natural soil improvement measures.



\*The second harvest of 2023 has not been calculated and, as such, is not included in the graph

### Rejuvenating Habitats, Endangered Species Return to Nature

As the natural environment improved, flora and fauna have returned in droves to Lamuan. In 2016, farmers unexpectedly discovered the endangered Taiwanese endemic fish species, Kikuchi's minnow (*Aphyocypris kikuchii*), listed in "The Red Lists of Freshwater Fishes in Taiwan". Due to competition and habitat destruction, Kikuchi's minnow numbers have vastly decreased. Through the farmers' transition to organic farming and the project's encouragement to create habitats for the fish, large numbers of Kikuchi's minnow fry can now be observed every year in the water canals and fields surrounding the rice fields when the weather warms.

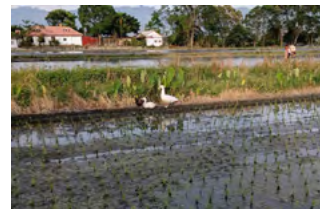
- By implementing ecological construction measures, such as digging eco-ditches and installing protective frames, providing homes for different species and thus enhancing regional biodiversity.
- In terms of flora, a survey in the fields and nearby streams has identified 51 plant species from 35 families, including the endangered grass species, *Aster altaicus*, and near-threatened species, *Cyclosorus taiwanensis*
- Documented native plants that Local Bunun people use, such as Taiwan crepe myrtle, Asian taro, Dwarf lilyturf, Formosa palm, Roxburgh Sumac, and Formosan Ash.

### Preserving Aboriginal Bunun Heritage, Sowing Seeds for a Sustainable Society

The uniqueness of Lamuan Tribe lies in its aboriginal Bunun culture and their traditional agriculture and ecological knowledge. The E.SUN Maravi Rice project is committed to supporting the tribe's social and environmental sustainability. Using various measures, including seeking advice from tribal elders and discovering local traditional agricultural knowledge, the project continues to document the wisdom and culture of the aborigines. By partnering with local elementary schools, the project brings the farmers' field experiences and knowledge and the unique food and farming culture of the Bunun tribe into their curriculum and activities, deepening the student's understanding and identification with their homeland. Activities are conducted by farmers, volunteers, and eco-observers, who serve as instructors for thematic activities, including agricultural operations, field ecological observations, farming and cooking experiences, and traditional Bunun crafts. Together with the children of the tribe, they inherit and protect Lamuan's environment and culture.



Credit to: 沐 V.Life 工作室



Credit to: 王政德



Credit to: 石君忠



Credit to: 林青峰

### Maravi Rice Project 10th Year, E.SUN's Persistence Towards Sustainability

From 2014 to the present, the E.SUN Maravi rice project has transitioned from individual fields to creating an organic ecosystem, expanding its effects. Maravi rice is not only a gift from E.SUN to its customers but also demonstrates our long-term focus on Taiwan's ESG issues. Through E.SUN's partnership with Tse-Xin Organic Agriculture Foundation, we jointly focus on the sustainable development of the aboriginal community and their environment and Taiwan's local agriculture. E.SUN exerts a positive impact on nature while also demonstrating our care for society. We aim to influence not only our customers and employees but society as a whole, thereby achieving our goals for sustainable development.

**Feedback from Customers:**

*During the Mid-Autumn Festival, E.SUN presented Maravi rice gift boxes to a tech company and discussed social responsibility and ESG issues with the company's top management. Both parties were pleased with the discussion and made an appointment to design and organize an ESG-linked loan project for the company next year, jointly contributing to society.*

*E.SUN presented a Mid-Autumn Festival gift to Chairman Chang, a valued customer, who expressed his preference for Maravi rice. The customer felt that E.SUN has been attentive to Taiwan for a long time, emphasizing and implementing CSR and practical actions for public welfare, exerting positive influence on the economy, society, and environment.*

*Customer Mr. Hou was invited to our branch and received Maravi rice as a gift. The customer highly commended E.SUN for fulfilling its social responsibility through its collaboration with farmers and expressed that if there are future business needs, E.SUN will be prioritized.*

*Company executive Mr. Yan received Maravi rice as a gift from E.SUN. As Mr. Yan and his wife are also involved in environmental protection and charity activities, they really liked the Maravi rice and agreed with E.SUN's commitment to ESG practices.*

## Sea Turtle Conservation Project

We collaborated with the National Museum of Marine Biology and Aquarium (NMMBA) since 2019 for five consecutive years in the "Taiwan Marine Environment Protection – Sea Turtle Conservation Project", which is divided into four series: "Injured sea turtle rescue", "Sea Turtle Wildlife Release", "Field Trip events", and "Secret Cape nature tour", with over a thousand participants. A total of 61 turtles were treated, and 11 were released back into the wild over the course of the project.



The five Sea turtle species that are seen around Taiwan include Green Turtles, Hawksbill turtles, Olive ridley sea turtles, Loggerhead turtles, and Leatherback turtles.

Sea Turtles Rescued and Released in Past Five Years:

Turtle Species \ Year	2023	2022	2021	2020	2019
Green turtle	1	2	1	1	3
Hawksbill turtle	-	-	-	-	1
Olive ridley sea turtle	-	-	-	-	2
Total	1	2	1	1	6

### The Sea Turtle Conservation Project Series 1 : Injured Sea Turtle Rescue

We established the Sea Turtle Medical Station three years in a row beginning in 2020, where we provided funds for medical devices/treatment and food so that injured sea turtles could receive great care.

### The Sea Turtle Conservation Project Series 2 : Sea Turtle Wildlife Release

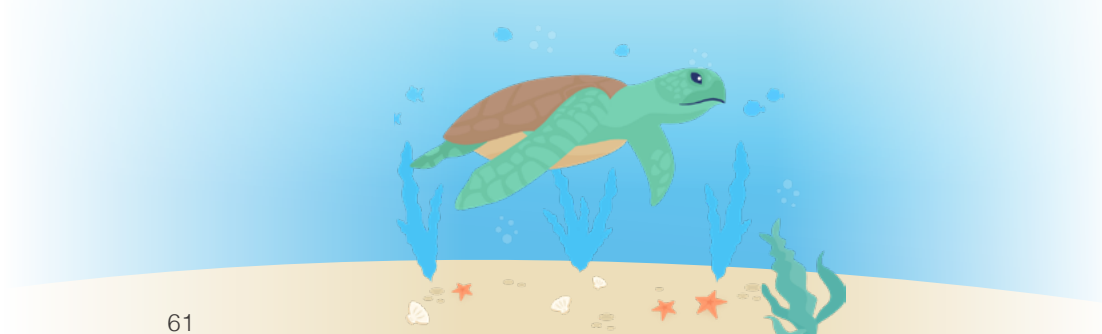
We invited the public to NMMBA's wildlife shelter to observe the environment and care sea turtles receive and arranged for staff vets to educate people on what to do when coming across a stranded or injured turtle. After the lesson, they are further invited to participate in the turtle release event.

### The Sea Turtle Conservation Project Series 3 : Field Trip Education

At the 3<sup>rd</sup> Taiwan Science Festival, jointly organized by the Ministry of Education and the National Science and Technology Council (NSTC), the NMMBA held the "City Meets Aquarium" exhibit at the Tainan Art Museum. The "Marine Conservation Showcase" portion displayed the recent results of E.SUN's collaboration with the NMMBA, increasing the public's knowledge of marine life. Ten elementary schools in the Tainan area were invited to take field trips to the exhibit along with 30 students, teachers, and E.SUN volunteers from ShengGong Elementary School under the E.SUN Golden Seed Project.

### The Sea Turtle Conservation Project Series 4 : Secret Cape Nature Tours

Using sea turtles as the central theme, the event includes learning about the difficulties sea turtles around the world face, turtle conservation arts and crafts, viewing the specimen collection at NMMBA, and in-person observation of work done at the sea turtle shelter.



## Polar Bear Environmental Education Project

February 27th is the annual International Polar Bear Day. For four consecutive years, beginning in 2020, E.SUN, in cooperation with the Museum of Natural Science (NMNS), launched a series of polar bear conservation events, with 30 events and around 3,000 attendees. In 2023, major activities included "Polar Bear Environmental Education Talks," "A Snapshot of Polar Bear Life art competition," and "Picturebook Corner" in hopes of raising social awareness of the environment and survival of polar bears.



Polar Bear Environmental Education Talks

## Formosan Black Bear Conservation Project

The Formosan black bear is Taiwan's sole native bear species. The preservation of this species in Taiwan not only concerns their survival but also implies protecting the integrity of Taiwan's forest ecosystems and overall biodiversity. Since 2012, E.SUN FHC has been working with Taipei Zoo to promote black bear conservation activities. In 2014, we launched the Black Bear Affinity Card and invited our customers to support the conservation of Taiwan's native species.

### Issuance of Taiwan's first credit card combining conservation and environmental concepts—the "Black Bear Affinity Card."

E.SUN worked with Taipei Zoo to issue Taiwan's first credit card to incorporate environmental conservation concepts—the "Black Bear Affinity Card." When using this card, 0.2% of the transaction amount goes to an animal conservation fund. This fund has totaled NT\$10 million in donations to Taipei Zoo and is used for black bear conservation, habitat protection, restoration of Taiwan's native species, and environmental education programs. Customers who use the "Black Bear Affinity Card" to make donations to Taipei Zoo, Taiwan Black Bear Conservation Association, Animal Protection Association of the ROC, and Taiwan Environmental Information Association also receive triple bonus points.

### The first animal conservation specialty branch in Taiwan, "Black Bear Branch"

E.SUN Bank's Hualien Branch utilizes unique local features and dedicates its efforts to promoting animal conservation and biodiversity. Visitors will immediately see the black bear mascot when they walk into the branch's lobby, and the waiting area has an audiovisual section that plays a documentary of E.SUN caring for bears produced by Yushan National Park Administration. A black bear knowledge corner provides abundant information on the conservation of Formosan black bears. The ATMs are wrapped in "bear-y" cute pictures of the bears, hoping to raise awareness of animal conservation and knowledge among customers and local communities.

### Promotion of Formosan black bear conservation education

For twelve years, E.SUN and Taipei Zoo have jointly promoted the conservation of Formosan Black Bears through activities such as Zookeeper Storytime, BB Keeper's Talk, Earth Day Fair, etc., with 80 events held. In 2023, we supported the "Black Bear~ Let's Go Summer Camp," incorporating various activities to help build environmental and wildlife conservation awareness among school children.



### Xinyi Township Millet Cultivation Revival Plan

E.SUN helped restore 28 millet species in Xinyi Township, Nantou County, in collaboration with NTU. Through their professional work, the millet seeds were brought back from the US germplasm bank and cultivated, starting in Heshe Plant Nursery (0.35 ha) and Tungpu daigaz (0.15 ha), thus reviving the millet industry of the aboriginal Bunun people.



### "E.SUN-NTU ESG Centenary Project"

E.SUN, in collaboration with NTU, will plant native conifers such as the Taiwan Red Cypress, Formosan Hinoki, Taiwan Incense Cedar, and Formosan China-fir in the Yushan mountain range. 100,000 trees are expected to be planted within ten years beginning in 2022, totaling 50 hectares in area. The forest is expected to absorb 242 thousand tons of carbon dioxide over the course of a century, equivalent to the annual absorption of 617 Daan Forest Parks. After growing and thinning, 25 thousand trees will be kept to grow over a century, laying the foundation for soil and water conservation, with carbon sequestration and circular economy benefits.



### "Plant a Tree, Plant a Life" E.SUN Tree Planting Project

E.SUN has been jointly promoting the "Plant a Tree, Plant a Life" project for five consecutive years in collaboration with the Forestry Bureau. In 2023, we adopted coastal and national forests with a total area of 6.01 hectares, planting 10,965 native tree saplings, including Formosan Ash, Formosa Acacia, Red Nanmu, and Taiwan Gordonia, totaling over 50,000 trees planted from 2019 to 2023.

On March 24th, 2023, E.SUN Management led 40 volunteers to plant trees in national forest sites in Taipei's Shilin District, putting in our effort for the environment and enriching local biodiversity.

### "Beautiful Taiwan, Smiling E.SUN" Environmental Cleanup

E.SUN has organized environment cleaning and beach cleanups under the "Smiling E.SUN" event for thirteen consecutive years since 2010. In support of World Cleanup Day, we organized street cleaning around business locations and beach cleanups from April 27th to November 19th, taking action to reduce waste and protect our beautiful homeland.

### Adopting Trails in Yushan National Park

E.SUN adopted and maintained 260km of trails in Yushan National Park trail for fifteen consecutive years. We use this opportunity to promote conservation and environmental education and encourage E.SUN employees to participate and work together to protect the environment.



# CH5 Towards a Beautiful Future

[5.1 E.SUN Carbon Emissions Structure](#)

[5.2 Portfolio Emissions Analysis](#)

[5.3 Our Path to Net-Zero by 2050](#)

[5.4 Empower Finance to Accelerate Sustainability](#)

## 5.1 E.SUN Carbon Emissions Structure

E.SUN began conducting carbon inventories of its service locations in accordance with the ISO 14064 standard in 2014. In 2017, we expanded to 100% of all locations. The inventory encompasses Scope 1 direct GHG emissions, including emissions from electric generators, natural gas use, company vehicles, and firefighting equipment, and Scope 2 indirect GHG emissions from electricity consumption.

For financial institutions, the largest source of emissions typically stems from investment and financing activities. To assess carbon inventory for our material assets in 2022, E.SUN employs the Second Edition of the Global GHG Accounting and Reporting Standard for the Financial Industry, as issued by the Partnership for Carbon Accounting Financials (PCAF). In calculating the GHG emissions of our investees, we rely on ESG reports and information published by the Carbon Disclosure Project (CDP). In addition to analyzing total emissions, E.SUN utilizes carbon footprint and weighted average carbon intensity (WACI) metrics to evaluate our financed emissions. Carbon footprint measures the total carbon emissions per unit of exposure, providing us with insights into portfolio alignment. WACI is derived from investment weights and the carbon emissions per unit of revenue generated by our investees, helping us interpret emission changes within our portfolio. E.SUN's WACI for financed emissions is 146.68 t-CO<sub>2</sub>e/USD million in 2022, showing a decrease compared to 2021. This change can be attributed to increased business revenue and emissions as the pandemic situation improved. By systematically tracking carbon emission information, E.SUN remains committed to monitoring changes in asset emissions indicators as we work towards our mission of achieving Net-Zero.

### E.SUN FHC GHG Emissions Timeline

Unit: t-CO<sub>2</sub>e

	2019	2020	2021	2022
Scope 1	2,455	2,399	1,857	1,844
Scope 2 <sup>1</sup>	22,443	22,299	22,105	20,294
Scope 3: Financed Emissions	916,408	4,710,269	3,672,612	4,945,550 <sup>2</sup>
Scope 3: Others <sup>1</sup>	52,100	53,713	49,181	56,015
Total	993,407	4,788,679	3,745,755	5,023,703

### Scope 3 Portfolio Emissions Inventory

	2019	2020	2021	2022
Financed Emissions( t-CO <sub>2</sub> e)	916,408	4,710,269	3,672,612	4,945,550 <sup>2</sup>
Carbon Footprint (t-CO <sub>2</sub> e/\$M)	95.36	69.64	47.88	64.66 <sup>2</sup>
Weighted Average Carbon Intensity <sup>3</sup> (t-CO <sub>2</sub> e/\$M)	-	-	172.63	146.68 <sup>2</sup>
Inventory Coverage <sup>4</sup> (%)	12.50%	73.69%	75.27%	76.53%
Data Quality Score <sup>2</sup>	-	-	3.33	3.24

Note 1: Scope 2 and Scope 3 (Others) emissions are calculated using market-based baseline calculations

Note 2: The figures for our financed emissions exclude Land Use, Land Use Change, and Forestry (LULUCF) data. The quality of our data is scored according to the PCAF methodology, where a score of 1 represents the best quality and 5 represents the worst. For more detailed information, please refer to "Appendix III, Financed Emissions Structure"

Note 3: The calculation of financed Weighted Average Carbon Intensity excludes mortgages, power generation-related project finance, and commercial real estate loans

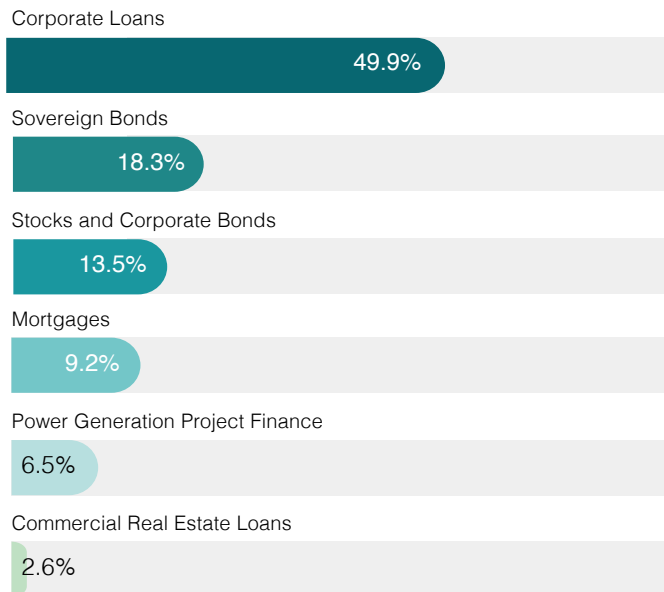
Note 4: Inventory Coverage = inventoried balance of investment and financing companies / sum of FVPL, FVOCI, AC, loans, and discounted items

## 5.2 Portfolio Emissions Analysis

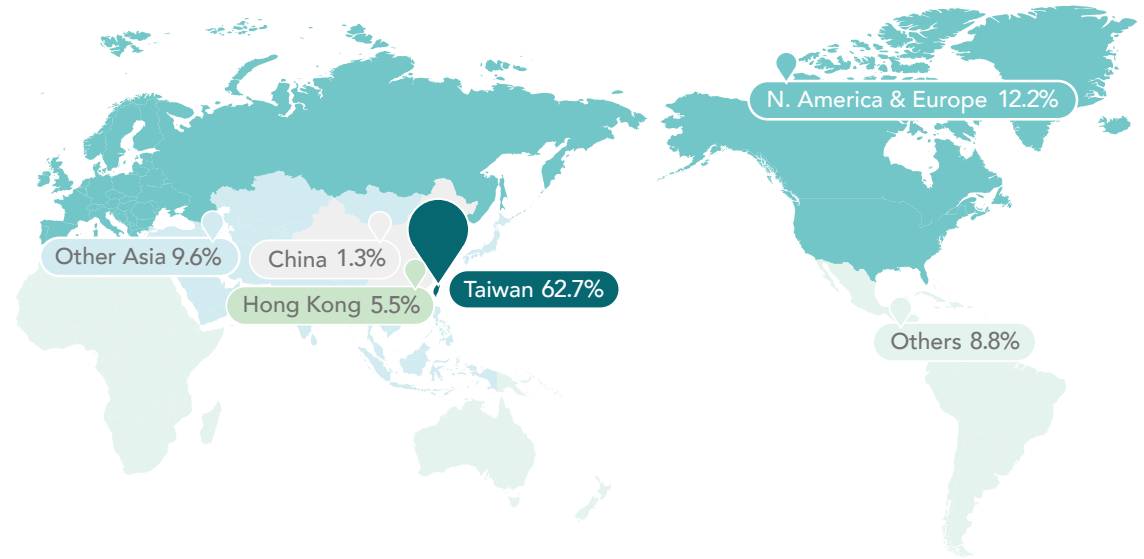
E.SUN conducts an analysis of GHG emissions from its investment and financing assets, categorizing them based on asset type, region, and industry. The largest proportion of assets, at 49.9%, consists of corporate loans, followed by investments in sovereign bonds and stocks/corporate bonds at 31.8%. Regarding regional distribution, Taiwan accounts for the highest percentage at 62.7%. The industries with the highest emissions are manufacturing at 22.3% and electricity and utilities at 20.7%. These analysis results will serve as an crucial foundation for E.SUN in developing its investment and financing decarbonization strategy and will be regularly monitored and tracked.

### Asset Class Distribution

Emission Percentage of 2022

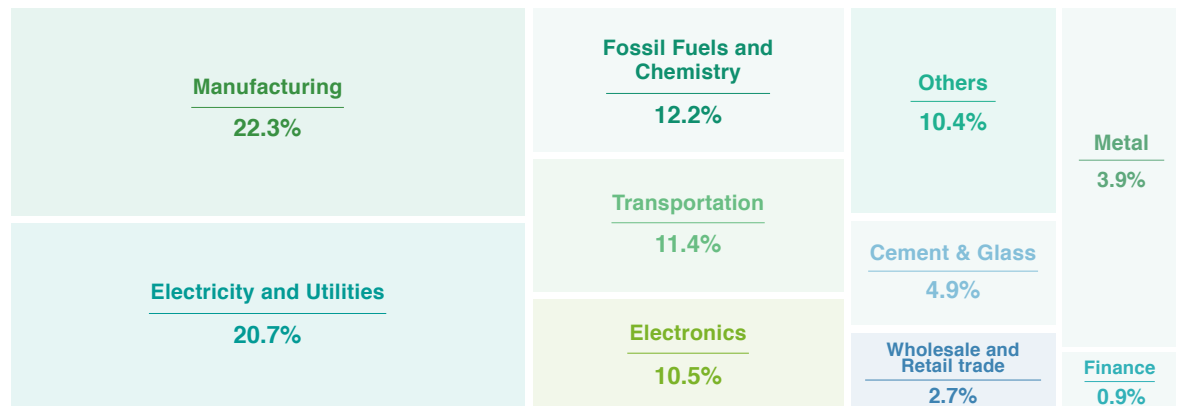


### Geographical Distribution



### Industry Distribution

Emission Percentage of 2022



# 5.3 Our Path to Net-Zero by 2050

● Latest Progress    ● SBT required reduction target or engagement results

	Risk Factors	SBT Targets	Net-Zero Actions
Scope 1	<ul style="list-style-type: none"> <li>Use of Company vehicles, refrigerants, natural gas</li> <li>Base year: 2020</li> </ul>		<ul style="list-style-type: none"> <li>Install solar panels, 100% of E.SUN's owned buildings equipped with solar facilities by 2025, and 100% use of renewable energy in all domestic branches by 2030.</li> <li>Purchase renewable energy certificates in line with government energy policies.</li> <li>Replace energy-consuming equipment, update old energy-consuming lighting and air-conditioning equipment with energy-saving products.</li> <li>Build green buildings, 100% of E.SUN's owned domestic buildings to obtain green building certification by 2027.</li> </ul>
Scope 2	<ul style="list-style-type: none"> <li>Operating locations and building electricity consumption</li> <li>Base year: 2020</li> </ul>		
Scope 3	<ul style="list-style-type: none"> <li>Investment and Financing (based on PCAF methodology)</li> <li>Base year: 2019</li> </ul>	<p>(1) Emission Intensity of Power Generation Project Financing</p>	<ul style="list-style-type: none"> <li>Since July 2019, E.SUN has committed to not support coal-fired power generation project financing, and by the end of 2021, no related balance remains.</li> <li>Following SBT guidance, E.SUN gradually divest from coal-related and unconventional fossil fuel related activities since 2021. We aim to reduce finance and investment exposure annually using the end of 2022 as the baseline. The position should reach a 50% reduction by 2030 and complete exit by the end of 2035. By end of 2022, we no longer hold unconventional oil &amp; gas assets in our investment portfolio. In 2021, E.SUN joined the Science Based Targets initiative (SBTi), setting a goal to reduce carbon emissions in line with a 1.5°C target.</li> <li>In 2022, we introduced internal carbon pricing to our business portfolio, combining E.SUN's attributed emissions with trusted international carbon pricing to create an accessible carbon cost concept and use it as a reference for business development.</li> <li>E.SUN will continue to drive sustainable development through financial initiatives and products, increasing its engagement with clients that have adopted SBT, as well as through investments in green energy and green building projects to help customers reduce their carbon footprint.</li> </ul>
		<p>(2) Emission intensity of long-term loans for power generation companies</p>	
		<p>(3) Emission intensity of commercial real estate loans</p>	
		<p>(4) Emission intensity of long-term loans for general service companies</p>	
		<p>Percentage of loans to manufacturing companies that have passed SBT</p>	<ul style="list-style-type: none"> <li>Reducing carbon emissions from credit cards by utilizing carbon neutralization and researching renewable card materials.</li> <li>Collaborating with suppliers to implement local and green procurement.</li> </ul>
		<p>Percentage of investments in companies that have passed SBT</p>	
	Other (procurement process, credit card manufacturing and disposal process, employee travel, waste disposal, etc)		

Note 1: SBTs use increase in reduction rate compared to baseline as the target. To make the information more instinctual, we chose to present our results as a reduction percentage.

Note 2: (1)(2) carbon intensity (t-CO<sub>2</sub>e/MWh) reduction

Note 3: (3)(4) carbon intensity (t-CO<sub>2</sub>e/m<sup>2</sup>) reduction

## 5.4 Empower Finance to Accelerate Sustainability

To address climate change, it is necessary for us to think in terms of products and services, and how to solve customers' problems. E.SUN is determined to be a partner in the sustainable transformation of our customers, not only as a provider of capital but also as an enabler of a low-carbon economy. A brief summary of E.SUN's climate-related products as of June 2023 is listed below\*.

### Personal Finance

#### Carbon Neutral Credit Card

- All series of credit cards issued have achieved carbon neutrality.
- Cumulative issuance of 4.02 million cards.

#### Inclusive financial innovation services

- Digitalized service platforms; electronic bills/statements; going paperless and reducing the GHG emission generated.

#### "Smiling Polar Bear" Series Loans

- Individuals who purchase energy-saving home appliances, electric vehicles, and install green energy power generation equipment, etc., are offered financial service discounts.
- A preferential interest rate or fee discount is provided to those whose mortgage collaterals satisfy the criteria for the Green Building Mark of the Taiwan Architecture & Building Center, totaling 924 units, or NT\$13.6 billion\*. Target 8% average allocation growth over three years.

### Corporate Finance

#### Green loans

- Assisting enterprises in developing green energy development, such as small, medium-sized solar roofs, offshore wind power, ground-mounted solar power, and other large-scale green power project items.
- Balance reached NT\$65.6 billion in June 2023 (\$53.8 billion in 2022).
- 2030 target balance NT\$100 billion.

#### ESG Linked Loans

- Encouraging enterprises to set and achieve ESG goals by providing them with preferential financial service rates.
- Balance reached NT\$51.5 billion in June 2023 (\$40.6 billion in 2022).
- Target to reach 13% of total corporate loan balance by 2030.

#### Sustainability initiative

- Invite like-minded business partners to focus on sustainability and joint carbon reduction, and then take practical actions to build a sustainable ecosystem.
- From 2021 to September 2023, the "E.SUN ESG Sustainability Initiative" was launched, and 243 companies joined the advocate.

#### Sustainability Savings

- Invited the 133 companies of the ESG Sustainability Initiative to participate since August 2022.
- 2022 balance reached NT\$1.03 billion.

#### Sustainability consulting services

- Combining internal expertise and external professional consultants, to assist corporate customers in developing ESG through consulting services.
- By September 2023, conducted consultations and exchanges with 151 companies on sustainability and climate, including recommending carbon reduction steps, and encouraging and assisting companies in conducting GHG inventory.

### Medium and Large Enterprises / Financial Institutions

#### Sustainable investments

- Invest in certified green bonds, social bonds, and sustainability bonds.
- Balance reached NT\$28 billion.
- 2025 target balance to reach NT\$32 billion.

#### Sustainability bond issuance

- Channeling funds to society and environment-friendly industries.
- Total issuance reached NT\$20.9 billion.

#### Sustainability bonds underwriting

- Supporting enterprises in raising funds for sustainability causes and assisting them in issuing sustainability bonds.
- Underwriting balance reached NT\$24.6 billion.
- In 2023, E.SUN Securities co-underwrote for two sustainability-related companies, totaling NY\$1.21 million.

#### Hedging and consultation services for sustainability-related projects

- Supporting environmentally friendly projects with our services by providing hedging and consultation services for sustainability-related projects, e.g., financing for offshore wind power projects and solar power projects.
- Hedging services provided reached NT\$23.6 billion.

Note: An overview of E.SUN's climate-related products as of Dec. 2022 is as shown above. For more detailed information on each product please see the contents of the "Banking for Better" chapter in the 2022 Sustainable Report of E.SUN FHC.

# CH6 Conclusion

6.1 Conclusion

## 6.1 Conclusion

In the next ten to twenty years, global warming is inevitable. Even if the temperature rise is controlled by the end of the century, climate risks will still pose significant economic, life, and property losses for humanity until 2050. Therefore, we must collectively accelerate emissions reduction and strengthen adaptation. In this era of global economic recession, energy crisis, and escalating political conflicts, people are realizing that global risks are closely tied to everyone. With frequent occurrences of extreme weather and the loss of natural resources, the failure of climate action or the loss of nature may render corporate earnings and accumulated assets meaningless. Therefore, achieving the goals of "Net-Zero" and "Nature Positive" has become the most critical mission of this era.

### "ESG is not a trade off, but a win-win situation."

Climate change and the loss of natural resources are global and cross-industry issues. If companies continue to do what they are doing, it will be difficult for them to tackle these two issues. It requires everyone to do a little more and go beyond their traditional business scope, combining the power of all to achieve "Net-Zero" and "Nature Positive." This is an unprecedented transformational revolution that requires extensive and long-term cross-national, cross-organizational, and cross-industry collaboration. We firmly believe that ESG is not a zero-sum game, but a win-win situation.

### "The more we do, the more we can do!"

E.SUN will continue to exert positive financial influence and work with like-minded partners to protect this wonderful land and care for our beautiful home. This is our shared hope and everlasting commitment from everyone here at E.SUN.



# Appendix

[Appendix I, TCFD Disclosure Recommendations](#)

[Appendix II, TNFD Disclosure Recommendations](#)

[Appendix III, Financed Emissions Structure](#)

[Appendix IV, TCFD Conformity Statement](#)

[Appendix V, Independent Auditors' Limited Assurance Report](#)

## Appendix I, TCFD Disclosure Recommendations

	Recommended Disclosures	Chapter
Governance	Describe the board's oversight of climate-related risks and opportunities.	<a href="#">1.2</a> / <a href="#">1.4</a> / <a href="#">3.3</a>
	Describe management's role in assessing and managing climate-related risks and opportunities.	<a href="#">1.2</a> / <a href="#">1.3</a> / <a href="#">1.4</a> / <a href="#">3.3</a>
Strategy	Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	<a href="#">2.1</a> / <a href="#">2.2</a> / <a href="#">3.1</a>
	Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	<a href="#">2.3</a> / <a href="#">3.2</a> / <a href="#">5.4</a>
	Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	<a href="#">2.3</a> / <a href="#">3.6</a> / <a href="#">4.6</a>
Risk Management	Describe the organization's processes for identifying and assessing climate-related risks.	<a href="#">3.1</a> / <a href="#">3.2</a>
	Describe the organization's processes for managing climate-related risks.	<a href="#">3.3</a> / <a href="#">3.4</a> / <a href="#">4.1</a> / <a href="#">4.2</a> / <a href="#">4.4</a> / <a href="#">4.6</a>
	Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	<a href="#">3.5</a> / <a href="#">3.7</a> / <a href="#">4.1</a> / <a href="#">4.2</a> / <a href="#">4.4</a>
Metrics and Targets	Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	<a href="#">2.3</a> / <a href="#">3.4</a> / <a href="#">4.1</a> / <a href="#">4.2</a> / <a href="#">4.4</a> / <a href="#">4.6</a> / <a href="#">5.4</a>
	Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	<a href="#">5.1</a> / <a href="#">5.2</a> / <a href="#">5.3</a>
	Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	<a href="#">2.3</a> / <a href="#">4.1</a> / <a href="#">4.2</a> / <a href="#">4.4</a> / <a href="#">4.6</a> <a href="#">5.2</a> / <a href="#">5.3</a> / <a href="#">5.4</a>

## Appendix II, TNFD Disclosure Recommendations

	Recommended Disclosures	Chapter
Governance	Describe the board's oversight of nature-related dependencies, impacts, risks and opportunities.	<a href="#">1.2</a> / <a href="#">3.3</a>
	Describe management's role in assessing and managing nature-related dependencies, impacts, risks and opportunities.	<a href="#">1.2</a> / <a href="#">1.3</a> / <a href="#">1.4</a> / <a href="#">3.3</a>
	Describe the organisation's human rights policies and engagement activities, and oversight by the board and management, with respect to Indigenous Peoples, Local Communities, affected and other stakeholders, in the organisation's assessment of, and response to, nature-related dependencies, impacts, risks and opportunities.	<a href="#">4.7</a>
Strategy	Describe the nature-related dependencies, impacts, risks and opportunities the organisation has identified over the short, medium, and long term.	<a href="#">2.2</a> / <a href="#">3.1</a> / <a href="#">3.2</a>
	Describe the effect nature-related dependencies, impacts, risks and opportunities have had on the organisation's business model, value chain, strategy and financial planning, as well as any transition plans or analysis in place.	<a href="#">2.1</a> / <a href="#">3.2</a>
	Describe the resilience of the organisation's strategy to nature-related risks and opportunities, taking into consideration different scenarios.	<a href="#">2.3</a> / <a href="#">3.6</a> / <a href="#">4.6</a>
	Disclose the locations of assets and/or activities in the organisation's direct operations and, where possible, upstream and downstream value chain(s) that meet the criteria for priority locations.	<a href="#">3.4</a> / <a href="#">4.6</a>
Risk & impact management	(i). Describe the organisation's processes for identifying, assessing and prioritising nature-related dependencies, impacts, risks and opportunities in its direct operations.	<a href="#">2.1</a> / <a href="#">3.4</a>
	(ii). Describe the organisation's processes for identifying, assessing and prioritising nature-related dependencies, impacts, risks and opportunities in its upstream and downstream value chain(s).	<a href="#">3.4</a> / <a href="#">4.1</a> / <a href="#">4.2</a> / <a href="#">4.4</a>
	Describe the organisation's processes for managing nature-related dependencies, impacts, risks and opportunities.	<a href="#">3.4</a> / <a href="#">3.5</a> / <a href="#">4.1</a> / <a href="#">4.2</a>
	Describe how processes for identifying, assessing, prioritising and monitoring nature-related risks are integrated into and inform the organisation's overall risk management processes.	<a href="#">3.4</a> / <a href="#">4.1</a> / <a href="#">4.2</a>
Metrics & targets	Disclose the metrics used by the organisation to assess and manage material nature-related risks and opportunities in line with its strategy and risk management process.	<a href="#">2.3</a> / <a href="#">5.4</a>
	Disclose the metrics used by the organisation to assess and manage dependencies and impacts on nature.	<a href="#">3.4</a>
	Describe the targets and goals used by the organisation to manage nature-related dependencies, impacts, risks and opportunities and its performance against these.	<a href="#">1.1</a> / <a href="#">4.7</a>

## Appendix III, Financed Emissions Structure

### Asset Class Distribution

Asset Class Distribution		Financed Emissions (t-CO <sub>2</sub> e)	Carbon Footprint (t-CO <sub>2</sub> e/\$M)	WACI (t-CO <sub>2</sub> e/\$M)	Physical Emission Intensity <sup>2</sup>	Physical Emission Intensity Units <sup>2</sup>	Data Quality	Inventory Coverage(%)
Investment	Stocks and Corporate Bonds <sup>1</sup>	665,683	47.67	154.68			1.28	48.86%
	Sovereign Bonds	Excluding LULUCF	906,889	238.54	238.54		1.00	
		Including LULUCF	828,890	218.02	218.02			
Crediting	Corporate Loans	2,469,758	87.81	130.30			3.72	92.32%
	Power Generation Project Finance	319,306	662.15		0.28	t-CO <sub>2</sub> e/Power Generated (MWh)	2.49	
	Commercial Real Estate Loans	129,764	60.42		0.11	t-CO <sub>2</sub> e/Floor Space (m <sup>2</sup> )	4.00	
	Mortgages	454,151	16.24		0.04	t-CO <sub>2</sub> e/Floor Space (m <sup>2</sup> )	4.00	
	Motor Vehicle Loans	0	0	0	0	t-CO <sub>2</sub> e/km	-	
Total	Excluding LULUCF	4,945,550	64.66	146.68			3.24	76.53%
	Including LULUCF	4,867,552	63.64	144.99			3.24	

### Geographical Distribution

Geographical Distribution	Financed Emissions (t-CO <sub>2</sub> e)	Carbon Footprint (t-CO <sub>2</sub> e/\$M)	WACI (t-CO <sub>2</sub> e/\$M)
Taiwan	3,102,067	56.79	156.56
N. America & Europe	604,906	62.04	39.61
Hong Kong	265,132	132.95	397.89
Others	436,703	96.37	225.15
Other Asia	473,946	96.46	144.83
China	62,795	94.14	88.93
Total	4,945,550	64.66	146.68

Note 1: Due to PCAF 2<sup>nd</sup> Edition have yet to set guidelines for calculating Scope 3 GHG for sustainable bonds, such as green bonds, sustainability bonds, and social bonds. The carbon emissions from these types of bonds have been excluded from the investments in stocks and corporate bonds. The excluded emissions amount to 18,788 t-CO<sub>2</sub>e. If the elements above are included, the overall inventory coverage will increase to 77.04%.



Note 2: Physical Emissions Intensity refers to the efficiency of total carbon emissions from specific activities within an industry per unit of output.

Note 3: Currency shown in \$USD, calculated using USD/TWD exchange rate of 12/30/2022.

### Industry distribution

Industry distribution	Financed Emissions (t-CO <sub>2</sub> e)	Carbon Footprint (t-CO <sub>2</sub> e/\$M)	WACI (t-CO <sub>2</sub> e/\$M)
Manufacturing	800,325	129.42	140.91
Electricity and Utilities	741,103	679.87	2,276.90
Fossil Fuels and Chemistry	438,248	258.37	482.78
Transportation	408,969	243.13	416.57
Electronics	375,173	84.32	89.88
Others	373,293	40.85	74.41
Cement and Glass	177,380	1,104.92	3,568.13
Metal	138,657	360.33	393.24
Wholesale and Retail trade	98,146	18.97	13.66
Finance	33,216	2.25	8.51
Total	3,584,510	80.15	138.39

# Appendix IV, TCFD Conformity Statement

## Conformity Statement

**Climate related Financial Disclosure**


This is to conform that

E. SUN Financial Holding Co., Ltd. No. 115, Sec. 3 Min Sheng East Road Songshan Dist. Taipei City 10546 Taiwan	玉山金融控股股份有限公司 臺灣 台北市 松山區 民生東路三段 115 號 10546
--	---

Holds Statement Number **CFD 796857**

As a result of carrying out conformity check process based on TCFD requirement, BSI declares that:

- E. SUN Financial Holding Co., Ltd. follows the Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) with Supplemental Guidance for the Financial sector (Banks) to disclose climate-related financial information which is clear, comparable and consistent its organizational risks and opportunities as well as its financial impacts. The disclosures covers the four core elements of the TCFD and is prepared based on the seven guiding principles for effective disclosures.
- The maturity model for the Climate-related Financial Disclosures with Supplemental Guidance for the Financial Sector(Banks) is **Level-5+ : Excellence** grade.
- 涵蓋金融業補充指引(銀行)之氣候相關的財務揭露的成熟度模型為【第五級 PLUS : 優秀】等級。



For and on behalf of BSI  
 Managing Director BSI Taiwan, Peter Pu

Latest issue: 2023-11-17      Expiry date: 2024-11-16

Page 1 of 2  
 ...making excellence a habit.™

The British Standards Institution is independent to the above named client and has no financial interest in the above named client. This Conformity Statement has been prepared for the above named client only for the purposes of verifying its statements relating to its climate related financial disclosures more particularly described in the scope. It was not prepared for any other purpose. The British Standards Institution will not, in providing this Conformity Statement, accept or assume responsibility (legal or otherwise) or accept liability for or in connection with any other purpose for which it may be used or to any person by whom the Conformity Statement may be read. Any queries that may arise by virtue of this Conformity Statement or matters relating to it should be addressed to the above name client only.  
 Taiwan Headquarters: 2nd Floor, No. 37, Ji-Hu Rd., Nei-Hu Dist., Taipei 114700, Taiwan, R.O.C.  
 BSI Taiwan is a subsidiary of British Standards Institution

Statement number: CFD 796857

<p><b>Location:</b></p> E. SUN Financial Holding Co., Ltd. No. 115, Sec. 3 Min Sheng East Road Songshan Dist. Taipei City 10546 Taiwan 玉山金融控股股份有限公司 臺灣 台北市 松山區 民生東路三段 115 號 10546	<p><b>Conformity Check Overall Result:</b></p> The maturity model for the Climate-related Financial Disclosures with Supplemental Guidance for the Financial Sector(Banks) is <b>Level-5+ : Excellence</b> grade.  涵蓋金融業補充指引(銀行)之氣候相關的財務揭露的成熟度模型為【第五級 PLUS : 優秀】等級。
---	---

Latest issue: 2023-11-17      Expiry date: 2024-11-16

Page 2 of 2

The British Standards Institution is independent to the above named client and has no financial interest in the above named client. This Conformity Statement has been prepared for the above named client only for the purposes of verifying its statements relating to its climate related financial disclosures more particularly described in the scope. It was not prepared for any other purpose. The British Standards Institution will not, in providing this Conformity Statement, accept or assume responsibility (legal or otherwise) or accept liability for or in connection with any other purpose for which it may be used or to any person by whom the Conformity Statement may be read. Any queries that may arise by virtue of this Conformity Statement or matters relating to it should be addressed to the above name client only.  
 Taiwan Headquarters: 2nd Floor, No. 37, Ji-Hu Rd., Nei-Hu Dist., Taipei 114700, Taiwan, R.O.C.  
 BSI Taiwan is a subsidiary of British Standards Institution

# Appendix V, Independent Auditors' Limited Assurance Report



## Independent Limited Assurance Report

PWCR23000191

To E.SUN Financial Holding Co., Ltd.

We have been engaged by E.SUN Financial Holding Co., Ltd.(the "Company") to perform assurance procedures on the Financed Emissions and Data Quality information identified by the Company and reported in the Appendix III of 2022 Climate and Environmental Report (the "Climate and Environmental Report"), and have issued a limited assurance report based on the result of our work performed.

### Subject Matter Information and Applicable Criteria

The sustainability performance information identified by the Company (hereinafter referred to as the "Subject Matter Information") and the respective applicable criteria are stated in the "Summary of Subject Matter Assured" on page 77 of the Climate and Environmental Report.

The applicable criteria referred to above are the Company's financed emissions calculation criteria, which are based on the Global GHG Accounting and Reporting Standard for the Financial Industry, published by the Partnership for Carbon Accounting Financials (the "PCAF").

### Management's Responsibilities

The Management of the Company is responsible for the Company's financed emissions calculation criteria, which are based on the Global GHG Accounting and Reporting Standard for the Financial Industry, published by PCAF, and performance information reported, and for such internal control as management determines is necessary to enable the preparation of the performance information that is free from material misstatement, whether due to fraud or error.

### Our responsibilities

We conducted our assurance work on the Subject Matter Information disclosed in Climate and Environmental Report in accordance with the International Standard on Assurance Engagement 3410, "Assurance Engagements on Greenhouse Gas Statements" issued by the International Auditing and Assurance Standards Board, to identify whether any amendment is required of the Subject Matter Information to be prepared, in all material respects, in accordance with the respective applicable criteria, and issue a limited assurance report.

資誠聯合會計師事務所 PricewaterhouseCoopers, Taiwan  
11012 臺北市信義區基隆路一段 333 號 27 樓  
27F, No. 333, Sec. 1, Keelung Rd., Xinyi Dist., Taipei 11012, Taiwan  
T: +886 (2) 2729 6666, F: +886 (2) 2729 6686, www.pwc.tw



We conducted our assurance work in accordance with the aforementioned standards including identifying the areas where there may be risks of material misstatement of the Subject Matter Information, and designing and performing procedures to address the identified areas. The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had we performed a reasonable assurance engagement.

The extent of the assurance work we performed were based on the identified risk areas and determined materiality, and given the circumstances of the engagement, we designed and performed the following procedures:

- Evaluated the suitability in the circumstances of the Company's use of the respective applicable criteria as the basis for preparing the Financed Emissions; and
- Made inquiries of the persons responsible for the Financed Emissions to understand the processes and the information system, and the relevant internal controls relating to the preparation of the aforementioned information to identify the areas where there may be risks of material misstatement; and
- Evaluated whether the Company's methods for developing estimates are appropriate and had been consistently applied. However, our procedures did not include testing the data on which the estimates are based or separately developing our own estimates to evaluate the Company's estimates; and
- Reconciled the Financed Emissions data back to the underlying records on a sample basis to obtain evidence for limited assurance. However, our procedures did not include corroborating the accuracy and completeness of the underlying greenhouse gas emissions and financial data from third parties; and
- Considered the presentation and disclosure of the Financed Emissions and the quality score, including the categorization of data by asset class, but excluding the coverage rate of greenhouse gas emission data.

We do not provide any assurance on the Climate and Environmental Report as a whole or on the design or operating effectiveness of the relevant internal controls.

### Compliance of Independence and Quality Management Requirement

We have complied with the independence and other ethical requirements of the Code of Ethics for Professional Accountants, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality, and professional behavior.



Our firm applies Standard on Quality Management 1, "Quality Management for Firms that Perform Audits or Reviews of Financial Statements, or Other Assurance or Related Services Engagements" in the Republic of China, this Standard requires the firm to design, implementation, and operate the system of quality management including policies or procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

### Inherent Limitation

Certain Subject Matter Information involves non-financial data which is subject to more inherent limitations than financial information. Qualitative interpretations of the relevance, materiality and the accuracy of data are subject to individual assumptions and judgments.

The quantification of the Financed Emissions data underlying the Financed Emissions is subject to inherent uncertainty because of incomplete scientific knowledge used to determine emissions factors and the values needed to combine emissions of different gases, resulting in significant limitations in the availability and quality of GHG emissions data from third parties that the Company used. The absence of a commonly used generally accepted reporting framework and legislative requirements or regulation prescribing the preparation, disclosure and verification of the Company's financed emissions, the Financed Emissions needs to be read and understood together with the financed emissions calculation criteria designed by the Company.

### Limited Assurance Conclusion

Based on the procedures we have performed and the evidence we have obtained, we are not aware of any amendment that is required of the Subject Matter Information to be prepared, in all material respects, in accordance with the respective applicable criteria.

### Other Matter


The Management of the Company is responsible for maintaining the Company's website. If the Subject Matter Information or the applicable criteria are modified after this limited assurance report is issued, we are not obliged to re-perform the assurance work.

*Chao, Yung-Chieh*  
CHAO, YUNG-CHIEH

For and on behalf of PricewaterhouseCoopers, Taiwan


December 28, 2023

# Appendix V, Independent Auditors' Limited Assurance Report




**Summary of Subject Matter Assured**

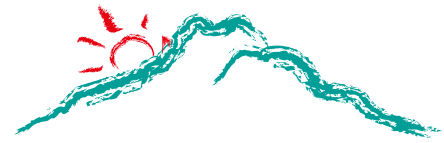
No	Item	Page	Corresponding Chapter	Applicable Criteria	The rules
1	Total financed emissions from stocks and corporate bonds investment portfolios in 2022 was 665,683 tCO2e and the data quality score was 1.28.	74	Appendix III, Financed Emissions Structure	E.SUN FHC and its subsidiaries(the "E.SUN") referred to PCAF to design its financed emissions calculation criteria and to compile and disclose financed emissions and data quality scores by asset class. • Total financed emissions for investment and financing assets: The Scope 1 and Scope 2 carbon emissions in metric tons of CO2 equivalent (tCO2e) related to the investment and financing assets held by E.SUN FHC and its subsidiaries. E.SUN strives to use the "latest obtainable Scope 1 and Scope 2 emissions or estimated data": 1. The sources of the latest obtainable Scope 1 and Scope 2 emissions include E.SUN obtained emission data directly from investment companies, US EPA, Bloomberg, external consulting units, official websites of state-owned enterprises, carbon emissions announcements by governments, or third party public statistics. 2. Estimated data is based on the	The other criteria referred to or designed by the Company based on the Company's industry characteristics and sustainability performance information reported.
2	Total financed emissions from sovereign bonds investment(excluding LULUCF) portfolios in 2022 was 906,889 tCO2e and the data quality score was 1.00.				



No	Item	Page	Corresponding Chapter	Applicable Criteria	The rules
3	Total financed emissions from sovereign bonds investment (including LULUCF) portfolios in 2022 was 828,890 tCO2e and the data quality score was 1.00.			methodology recommended by PCAF, including emissions data estimated from electricity consumption per unit area of floor (EUI) by building type, physical and economic activities, or industry-specific emissions factors from analysis of Bloomberg's emissions by industry; and attribute factors calculated from financial data of the closest financial year or book value. • The scope of financed emissions for investment assets: E.SUN conducted an inventory of listed stocks, corporate bonds, and sovereign bonds held as part of proprietary investment assets as of December 31, 2022. The entity scope includes E.Sun Bank, E.Sun Securities, and E.Sun Venture Capital Company. The assets include "Financial Assets Through Profit or Loss (FVTPL)", "Financial Assets Through Other Comprehensive Income (FVTOCI)", and "Financial Assets at Amortized Cost (AC)" three accounts. • The scope of financed emissions for credit assets: As of December 31, 2022, electricity generation project finance, commercial real estate mortgage, and corporate loans provided by E.SUN Bank and its overseas branches. • Referred to PCAF data quality score hierarchy to calculate the weighted	
4	Total financed emissions from corporate loans portfolios in 2022 was 2,469,758 tCO2e and the data quality score was 3.72.				



No	Item	Page	Corresponding Chapter	Applicable Criteria	The rules														
5	Total financed emissions from power generation project finance in 2022 was 319,306 tCO2e and the data quality score was 2.49.			average data quality score of financed emissions of investment and finance assets: <table border="1"> <tr> <td>Assets class</td> <td>Data quality score referred to PCAF</td> </tr> <tr> <td>Stocks and corporate bonds</td> <td>Table 5-3: General description of the data quality score table for listed equity and corporate bonds</td> </tr> <tr> <td>Sovereign bonds</td> <td>Table 5-26: General description of the data quality score table for Sovereign Debt</td> </tr> <tr> <td>Corporate loans</td> <td>Table 5-7: General description of the data quality score table for business loans and unlisted equity</td> </tr> <tr> <td>Power generation project finance</td> <td>Table 5-10: General description of the data quality score table for project finance</td> </tr> <tr> <td>Commercial real estate loans</td> <td>Table 5-14: General description of the data quality score table for CRE</td> </tr> <tr> <td>Mortgages</td> <td>Table 5-15: General description of the data quality score table for mortgages</td> </tr> </table>	Assets class	Data quality score referred to PCAF	Stocks and corporate bonds	Table 5-3: General description of the data quality score table for listed equity and corporate bonds	Sovereign bonds	Table 5-26: General description of the data quality score table for Sovereign Debt	Corporate loans	Table 5-7: General description of the data quality score table for business loans and unlisted equity	Power generation project finance	Table 5-10: General description of the data quality score table for project finance	Commercial real estate loans	Table 5-14: General description of the data quality score table for CRE	Mortgages	Table 5-15: General description of the data quality score table for mortgages	
Assets class	Data quality score referred to PCAF																		
Stocks and corporate bonds	Table 5-3: General description of the data quality score table for listed equity and corporate bonds																		
Sovereign bonds	Table 5-26: General description of the data quality score table for Sovereign Debt																		
Corporate loans	Table 5-7: General description of the data quality score table for business loans and unlisted equity																		
Power generation project finance	Table 5-10: General description of the data quality score table for project finance																		
Commercial real estate loans	Table 5-14: General description of the data quality score table for CRE																		
Mortgages	Table 5-15: General description of the data quality score table for mortgages																		
6	Total financed emissions from commercial real estate loans in 2022 was 129,764 tCO2e and the data quality score was 4.00.																		
7	Total financed emissions from mortgage in 2022 was 454,151 tCO2e and the data quality score was 4.00.																		



心清如玉。 義重如山。