acer

**ACER
TCFD REPORT**

2022

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Reuse, recycle for a sustainable future

Contents

Building Climate Resilience for a Low-carbon Smart Society

Across the globe, we're seeing increasingly extreme weather events which has exerted impacts on business operations and societal activities. Governments all over are making plans to eliminate carbon emissions, showing that we're in a situation where challenges and chances for businesses to thrive are happening together.

In 2022, Acer has announced the key strategies for net zero with 9 directions under 3 major pillars. We are committed to reducing our carbon footprint from the 3 major pillars in business operations, products and services, and value chains. Acer has implemented a number of plans including energy conservation, use of renewables electricity, product energy efficiency improvement, use of recycled materials, low-carbon logistics, and supply chain carbon reduction.

Through adopting the Task Force on Climate-related Financial Disclosures (TCFD) framework, we strengthen climate governance, address climate risks and opportunities, understand our operations' climate impact, and develop relevant strategies and adaptive measures. This process reduces climate risks, enhances climate resilience, and captures global trends in green economics and low-carbon business transformation. We consistently improve energy efficiency, integrate existing and new businesses, outline sustainable strategies, and offer tangible products and solutions, generating ESG value that transforms into corporate competitiveness.

Acer aims to lead as a brand and pioneer new low-carbon intelligent solutions, collaborating with suppliers to build a climate-resilient supply chain in the context of emerging opportunities within a low-carbon, intelligent society.

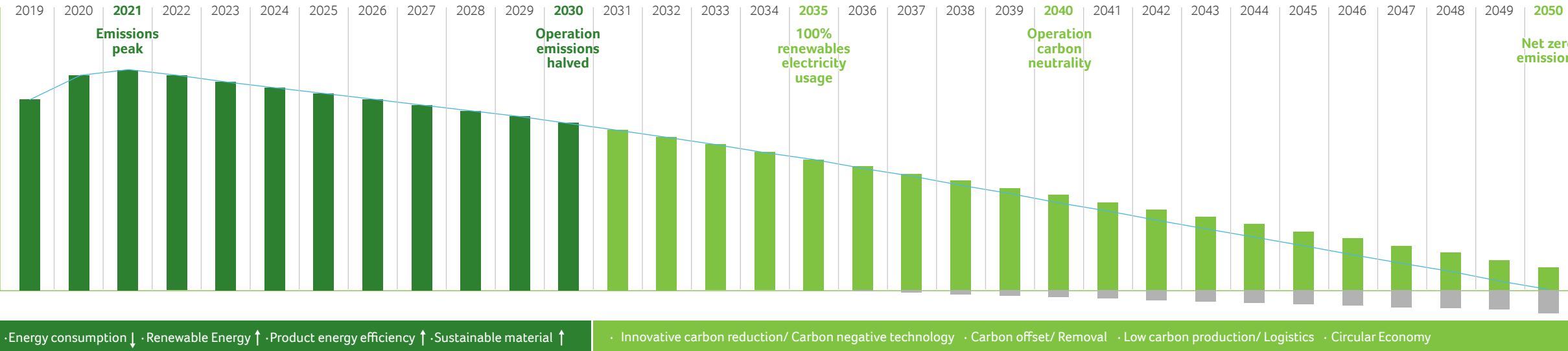# Blueprint for low-carbon transition and climate strategy

While climate issues have driven the transformation of the global low-carbon economy and business models, Acer shoulders the mission of being a leader and promises to achieve net zero emissions by 2050 and increase the share of renewables in electricity consumption to 100% by 2035. It also looks to integrate existing and new business groups to formulate low-carbon sustainable business strategies, create ESG value and ultimately improve corporate competitiveness.

To achieve the net zero carbon emission by 2050, Acer has announced the key strategies including 9 directions under 3 major pillars. We are committed to reducing carbon footprint and emissions with 3 dimensions of business operation, product and service, and value chain. In business operations, Acer has introduced the Task Force on Climate-Related Financial Disclosures (TCFD) and the internal carbon pricing mechanism to monitor climate risks and opportunities fully and effectively. In response to the Science Based Targets (SBT) aligned with the 1.5°C carbon reduction pathway, we are committed to achieve a 50% carbon reduction in operations (Scope 1+2) by 2030 compared to 2019, and implement a number of carbon reduction and renewable energy actions to reduce operating carbon emissions. In addition, we conduct carbon-negative research, including carbon credit development, and carbon capture and utilization (CCU).

In product and service, Acer incorporates the circular economy concept and considers the product life cycle in R&D and innovation to reduce the environmental impact and balance product management and environmental performance. Acer has introduced the carbon footprint tool, completed the carbon footprint report of all commercial PC products (including Chrome book) and representative desktop PC and monitor products, and developed Modern Standby power management mode. Acer also launched the environmentally friendly Vero product line. It all begins with raw materials as we continue to increase the use of sustainable materials such as post-consumer recycled plastics (PCR) and ocean-bound plastic (OBP) to reduce the material carbon footprint. Acer promotes the reuse of resources and establishes a circular economy.

In the value chain, since "Project Humanity" in 2017, Acer has been implementing environmentally friendly actions and laying the foundation for a net zero carbon emission strategy with global employees for a low-carbon supply chain. In 2021, we launched the "Earthion" project to promote carbon reduction action to suppliers and work closely with suppliers and partners in projects such as energy, product design, packaging design, manufacturing, logistics and recycling. We join hands with the suppliers to execute low-carbon transformation where collaboration can bring a positive impact on the environment and create a cleaner and more sustainable future life.

2050 Net Zero Emissions Pathway, illustrative only

2019 2020 **2021** 2022 2023 2024 2025 2026 2027 2028 2029 **2030** 2031 2032 2033 2034 **2035** 2036 2037 2038 2039 **2040** 2041 2042 2043 2044 2045 2046 2047 2048 2049 **2050**

2021 Emissions peak

2030 Operation emissions halved

2035 100% renewables electricity usage

2040 Operation carbon neutrality

2050 Net zero emissions

·Energy consumption ↓ ·Renewable Energy ↑ ·Product energy efficiency ↑ ·Sustainable material ↑   · Innovative carbon reduction/ Carbon negative technology   · Carbon offset/ Removal   · Low carbon production/ Logistics   · Circular Economy

■ Carbon emission   ■ Carbon offset/ Removal   — Net Zero Emissions Pathway

Acer's Net Zero Emissions Strategy

Operations

Minimize Energy consumption

Set energy-saving targets, use high-energy efficient equipment, choose electrification, and low (or carbon neutral) fuels

Use Renewable Energy

Install renewable-energy generation facilities, sign power purchase agreement (PPA), purchase renewable energy certificates

RE100 · CLIMATE GROUP · CDP · acer

Carbon Removal and Offsets

Purchase and develop carbon credit, research on carbon capture, utilization, and storage (CCUS)

Products and Services

Low-Carbon Products and Services

Boost product energy efficiency, reduce the carbon footprint of products and services

Choose Sustainable Materials

Use post-consumer recycled (PCR) plastics and ocean-bound plastics (OBP) in products

Smart, Circular and Renewable Applications

AI, IoT, circular, renewable energy storage and creation

Value Chain

Commit to Carbon Reduction Targets

CDP, science-based targets (SBTi), RE100

Green Manufacturing and Logistics

Save energy, use low (or carbon neutral) fuels, optimize processes

Earthion Missions

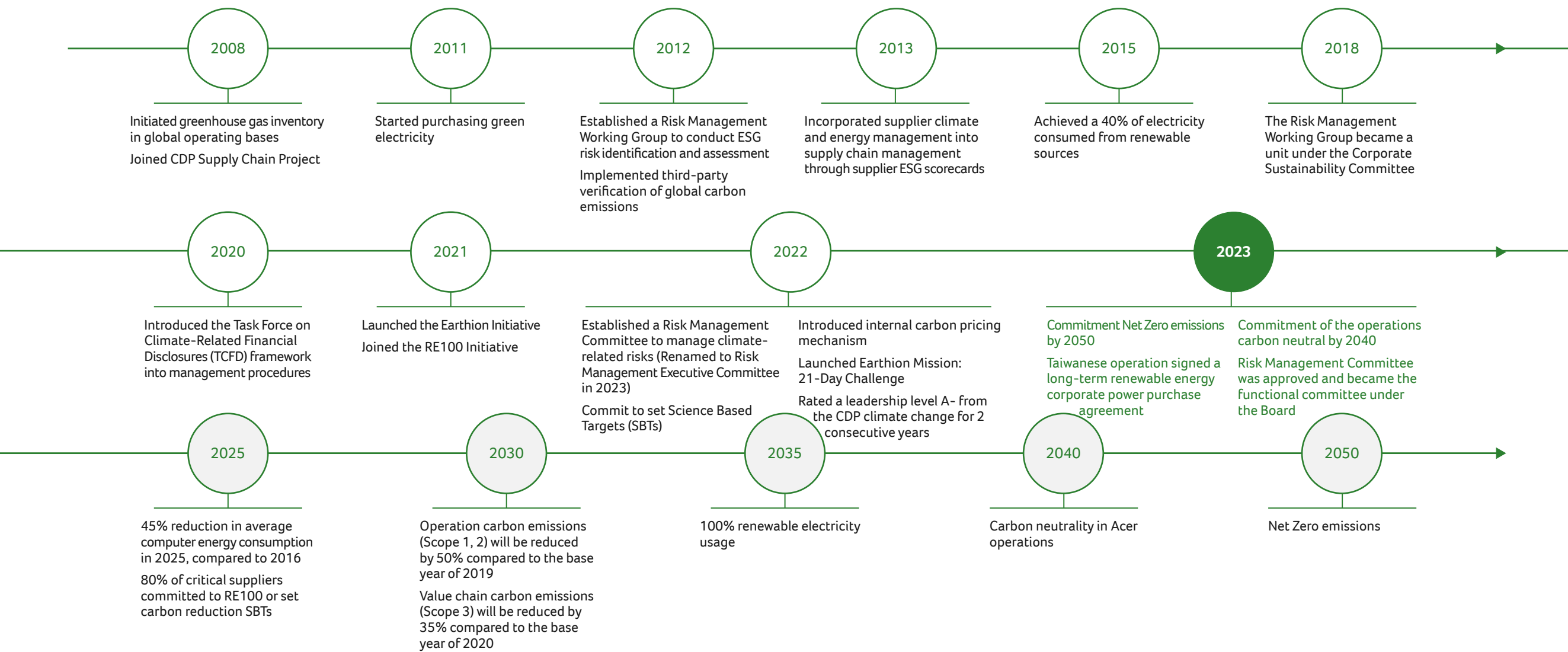Product Design · Production · Energy · Logistics · Packaging Design · Recycling

Realize a Low Carbon and Circular Economy

Material circularity, DaaS (device as service) business

Acer's Milestone in Response to Climate Change

2008
Initiated greenhouse gas inventory in global operating bases

Joined CDP Supply Chain Project

2011
Started purchasing green electricity

2012
Established a Risk Management Working Group to conduct ESG risk identification and assessment

Implemented third-party verification of global carbon emissions

2013
Incorporated supplier climate and energy management into supply chain management through supplier ESG scorecards

2015
Achieved a 40% of electricity consumed from renewable sources

2018
The Risk Management Working Group became a unit under the Corporate Sustainability Committee

2020
Introduced the Task Force on Climate-Related Financial Disclosures (TCFD) framework into management procedures

2021
Launched the Earthion Initiative
Joined the RE100 Initiative

2022
Established a Risk Management Committee to manage climate-related risks (Renamed to Risk Management Executive Committee in 2023)

Commit to set Science Based Targets (SBTs)

Introduced internal carbon pricing mechanism

Launched Earthion Mission: 21-Day Challenge

Rated a leadership level A– from the CDP climate change for 2 consecutive years

2023
Commitment Net Zero emissions by 2050

Taiwanese operation signed a long-term renewable energy corporate power purchase agreement

Commitment of the operations carbon neutral by 2040

Risk Management Committee was approved and became the functional committee under the Board

2025
45% reduction in average computer energy consumption in 2025, compared to 2016

80% of critical suppliers committed to RE100 or set carbon reduction SBTs

2030
Operation carbon emissions (Scope 1, 2) will be reduced by 50% compared to the base year of 2019

Value chain carbon emissions (Scope 3) will be reduced by 35% compared to the base year of 2020

2035
100% renewable electricity usage

2040
Carbon neutrality in Acer operations

2050
Net Zero emissions

Governance

Acer's corporate philosophy is based on the ultimate goal of "sustainable development." We believe that rigorous and pragmatic risk management not only reflects Acer's persistent commitment to our customers, employees, supply chain partners and investors, but also to our long-term commitment to ensuring sound business performance and compliance of corporate social responsibility.

In 2020, we officially implemented the Recommendations of the Task Force on Climate-related Financial Disclosures issued by the Financial Stability Board of the United Nations to analyze the current status of climate-related financial disclosures, identify and quantify climate risks, and publicly disclose the potential financial impact of climate change on Acer and its future response strategies.

| Climate-related Governance Structure

In order to practice the vision of sustainable development of the enterprise and strengthen the construction of a corporate culture with risk awareness, the Acer Risk Management Committee was approved on June 6th, 2023 by board resolution in accordance with the Company's Articles of Incorporation. It also becomes the functional committee under the Board. The Committee shall consist of five or more directors, among whom more than half of members shall be independent directors. The board of directors or the Committee shall elect one of independent directors as the convener and chairman of the Committee.

The Committee and its members shall exercise due care as prudent managers to review and provide guidance on the reports and proposals of the Risk Management Execution Committee (Former Risk Management Committee) and the Risk Management Working Group; To review and decide on risk management policies, procedures and frameworks, and periodically assess its appropriateness and effectiveness of implementation; To approve risk appetite (risk tolerance) and endorse or guide the allocation of resources proposed by the Risk Management Execution Committee and the Risk Management Working Group; To oversee that the risk management mechanisms adequately address the risks faced by the Company and integrate them into the daily operational processes; To determine the priority and risk levels for risk control; To review the implementation of risk management and provide necessary improvement recommendations, reporting to the board of directors on a regular basis (at least once a year); and implement risk management decisions made by the board of directors.

Organization

The Board of Directors/Risk Committee are the highest authorities responsible for the Company's risk management which promotes and implements the Company's overall risk management policy in accordance with the overall operating strategy and business environment to ensure effective risk management. We integrate our climate-related risk management into our risk management policies and operating procedures. The Acer Risk Executive Committee is responsible for approving/declaring the environmental risk, risk management priorities, assessment results and related response measures, and supervises the continuous improvement of risk management and performance. The management committee is composed of the top executives of each business unit/functional organization at the headquarters with the top of the auditing department as an observer to the supervisor, managing risks including strategic risk, operational risk, financial risk, disaster risk, and climate change, and reporting to the Risk Committee and Board of Directors at least once a year.

Scope of Acer Risk Management

For implementation, the Risk Management Working Group under the Risk Management Committee is the unit responsible for introducing the TCFD climate risk assessment framework and conducting climate risk identification, climate scenario and operational impact assessment, formulating climate risk prevention and mitigation measures based on the assessment and report to the Risk Management Committee. The Working Group is also responsible for continuously improving Acer's risk management practices and the effectiveness thereof, establishing crisis management procedures, and conducting drills.

The Risk Management Committee, in collaboration with the Corporate Sustainability Committee, is supported by the Working Groups on Corporate Governance, Innovation and Product Life Cycle, Environmental Management and Supply Chain Management for ESG-related projects such as TCFD. The Acer Corporate Sustainability Committee (CSC) is chaired by the Chairman and CEO, with the ESG Office serving as the Executive Secretary. The ESG Office is led by the Chief Sustainability Officer to report regularly to the Corporate Sustainability Committee on trends, impacts and performance on sustainability-related issues, and plays the role of communicating and coordinating important sustainability issues across departments to enhance the execution of various ESG-related risks.

Acer Risk Management Organization Chart
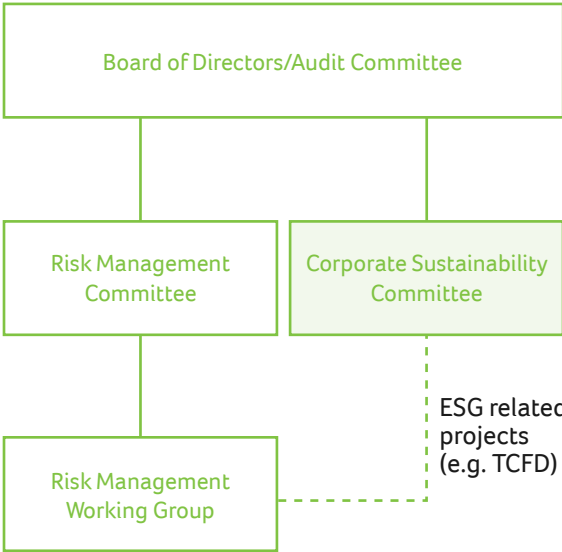
| Building Climate Capabilities

Responsibilities of the Acer Risk Management Organization

· **Board of Directors/Audit Committee**

The highest authority for risk management of the Company

Promote and implement the Company's overall risk management policy in accordance with the overall operating strategy and business environment to ensure effective risk management

· **Risk Management Committee**

Composed of the top executives of each business unit/ functional organization in the headquarters, with the chief of internal auditor as observer

Reports to the Audit Committee and Board of Directors

Summarize the risk environment, risk management focus, assessment results and related remedial measures

Guide and approve the priority of risk control

Supervises ongoing improvement of risk management

Observers regularly review the implementation of risk management policies

· **Risk Management Working Group**

Composed of representatives of divisional directors of each business unit/functional organization

Identifies risks, assesses potential risk scenarios and operational impacts

Plans and implements risk prevention and mitigation actions based on risk scenarios

Integrate corporate risk management reports and report to the Risk Management Committee

Continuous refinement of risk management practices and effectives

Establish and rehearse crisis management-related operational procedures

Board of Directors Training

In order to implement its sustainable development policy, the company also reviews the involvement of directors in economic, social, and environmental issues through performance evaluations, as well as regularly communicating with dedicated units on economic, social, and environmental issues, receiving reports, reviewing implementation status, and evaluating risks. To maintain the professional strengths and competencies of the directors, all seven directors have participated in various continuing education courses, such as "How can business leaders lead low-carbon ESG transformation initiatives?" and " Net Zero Emissions, Carbon Neutral and Corporate Compliance" in 2022.

Employee internal training

Acer places great emphasis on the impact of the company in regard to climate issues. Through internal training and initiatives such as Project Humanity, we focus on ESG-related issues and continue to cultivate the climate awareness of our staff. Company goals such as net zero emissions and RE100 are deeply rooted in our corporate culture and practice, strengthening our sustainable competitiveness. In 2022, we held ESG-related training for some 15,492 participants around the world covering topics including climate change issues, accounting for 57,038 total person-hours of training. In January 2023, we partnered with external teams to conduct ISO 14064 internal audit training for employees of both our company and our subsidiaries. About 70 employees attended sessions both in-person and online to learn about GHG management regulations and trends, and internal inventory information collection and calculation methods to improve the accuracy and reliability of the company's greenhouse gas emission data.

Improving Supplier Capabilities

Acer offers information and training on the latest trends and developments in social and environmental responsibility, helping suppliers better confront the challenge of sustainable development.

We continue to invite suppliers to participate in annual supplier ESG communication meetings, CDP project briefings, and major training programs on social and environmental responsibility. This helps them get access to the latest information on global trends, while also presenting opportunities for suppliers to engage in multilateral communication with Acer senior management or relevant industry experts. We invite major suppliers to take part in annual ESG Communication Meetings, where we share the latest global trends in corporate sustainability, human rights issues, and climate mitigation and adaptation measures, along with Acer's requirements of and goals for supply chain ESG management performance.

 In 2022, we focused our communication on the digitization of carbon management, and through the new e-ARSM Life Cycle Assessment (LCA) carbon footprint system, we will effectively collect and manage carbon emissions at the supply chain end to build the foundation for the company's net-zero emissions promotion.

Strategy

While climate issues have driven the transformation of the global low-carbon economy and business models, Acer shoulders the mission of being a leader and promises to achieve net zero emissions by 2050 and increase the share of renewables in energy consumption to 100% by 2035. It also looks to integrate existing and new business groups to formulate low-carbon sustainable business strategies, create ESG value and ultimately improve corporate competitiveness.

Acer's risk management team referred to relevant international carbon management trends, TCFD recommendations, reports, and information released by other relevant domestic and global institutions and introduced physical and transition risk scenarios such as RCP 2.6, RCP 8.5, IEA NZE 2050, and NDCs (Taiwan). We take the potential impact of climate change into overall operational considerations, evaluate the probability of risk occurrence and impact, and formulate climate risk prevention and mitigation measures.

| Climate Risk and Opportunity Identification

Climate Change Risk Identification Procedure

Acer has established climate-related risk management procedures in accordance with the TCFD guidelines. The management process consists of four steps: (1) completing a climate risk inventory, (2) ordering by risk materiality, (3) results and reporting, and (4) response strategies and external disclosure.

For climate-change-related scenarios, Acer has identified short-, medium-, and long-term climate change risks by referring to relevant climate change information, TCFD disclosure recommendations, and reports and information released by other domestic and international organizations, as well as considering the characteristics of our own business, in order to list out relevant climate risk factors. The Working Group on Risk Management then invites each business unit to use a matrix to assess the potential impact and influence of climate-related transition and physical risks on the business unit's operations based on the principle of materiality. We use a 10-year time scale to evaluate and rank the risk matrix in terms of risk impact level, potential risk vulnerability, and risk likelihood, providing regular review and feedback on the results to develop corresponding measures.

Climate Risk Identification Procedure

Completing Risk Inventory	**Ordering by Materiality**	**Results and Reporting**	**Response Strategies and External Disclosure**
1	2	3	4
Study international trends, technology industry benchmarks, and reports and information released by domestic and international organizations to complete a climate risk inventory.	Firstly, conduct interviews to understand and identify potential climate risks and impact areas related to Acer's value chain. After this, climate risk prioritization by materiality questionnaires are distributed to relevant units for assessment through risk identification workshops.	Based on the contents of the questionnaire, a risk matrix is generated based on the criteria of risk impact level, risk potential vulnerability, and risk likelihood. This is then reported to the Corporate Sustainability Committee.	After confirming the risk factors that Acer should strengthen mitigation of and continue to focus on, specific response measures or monitoring mechanisms are prepared and disclosed to stakeholders in the Company's annual corporate social responsibility report.

Acer Climate Risk Checklist

Transition Risk		Physical Risk

Transition Risk

Regulation and Policy

Increased Demand for and Regulations Related to Sustainability

Emerging sustainable product design codes, climate disclosure requirements (such as emissions disclosure), and renewable energy or environmental regulations and policies increase business operating costs for compliance.

Increased Costs of Greenhouse Gas Emissions

As trends in carbon valuation become clearer (e.g. carbon taxes, carbon fees), greenhouse gas emissions or the passing on of supplier costs will increase operating costs.

Regulations and Impact on Existing Products and Services

Environmental sustainability requirements for existing products or services due to new regulations or eco-label guidelines will lead to increased business operating costs.

Market

Changes in Customer Behavior

Customer expectations for product sustainability are growing, and they are looking for low-carbon characteristics that exceed regulatory requirements or have high standards regarding low-carbon and energy-efficiency certifications.

Increased Raw Materials Costs

Increased production cost risks arising from changes in the cost of raw materials required in the product manufacturing process due to climate change.

Technological

Costs of Low-Carbon Technology Transition

Low-carbon technological competition or low-carbon transition to improve energy efficiency, low-carbon technology R&D.

Low-Carbon Alternatives to Existing Products and Services

When the low-carbon product or service technologies appear among the competition, the product or service technologies our company employs will be replaced.

Failed Investments in New Technologies

Risk of investment in digital technology, new technology failure.

Reputation

Increased Negative Feedback from Stakeholders

Stakeholders' response to corporate energy saving and sustainable performance, such as investors listing climate change strategy as one of their evaluation criteria.

Movements in Customer Preferences

Risk of declining customer satisfaction or shifting preferences when climate-related risks create brand concerns among customers.

Physical Risk

Extreme Risk

Typhoons, hurricanes, cyclones

Damage to operations or production plant or equipment, supply chain disruption, or inability of employees to get to work due to typhoons.

Droughts

Water supply shortages due to droughts, decreased production efficiency due to water restrictions, increased water acquisition cost, additional costs incurred due to development of system maintenance, etc.

Heavy rainfall, storms

Events such as extremely heavy rainfall, storms, or flooding caused by changes in rainfall types may cause plant or equipment damage, disrupt the supply chain, or render employees unable to get to work.

Extremely Low Temperatures

Sudden drops in temperature caused by low-pressure belts of cold air driven down from the Arctic to the central latitudes may cause weather phenomena like blizzards, rendering staff unable to travel to work and thus leading to operational interruptions and even damage to products and equipment.

Long-term Risks

Rising Average Temperatures

Increased costs due to rising average temperatures resulting in gradual energy shortages, supply chain disruptions, and a reduced labor force.

Rising Sea Level

Sea level rise may lead to the flooding of Acer's operating sites or those of our suppliers, leading to financial losses.

Climate Opportunity Identification Procedure

In terms of climate-related opportunities, we conduct a workshop, through the integration of upstream and downstream value chains, including ESG demand customers/distributors, OEM, and components suppliers, and consider 5 dimensions including products and services, market conditions, resource efficiency, energy sources, and resilience, and a total of 14 categories of climate opportunities recommended by TCFD, to identify the significance of each category. Senior executives and subsidiaries' executives are responsible for assessing their business perspective considering factors such as the impact level, potential business opportunity, potential financial impact, and opportunity occurrence period, and ranking the significance score to obtain, the opportunity occurrence period (X-axis) and the potential impact degree (Y-axis). As a result, the company can further analyze its climate strategy and action plan. This will help formulate future development directions, engage climate operators, expand the group's business, and effectively manage climate issues on a daily basis.

Acer Climate Opportunity Checklist

Products & Services

Development and/or Addition of Low-Carbon Goods and Services

Facing global low-carbon transitions and trends, developing or enhancing the application value of low-carbon products or related low-carbon services, can help boost business revenue

Development of New Products and Services through R&D and Innovation

Development of new products or services through R&D and innovation can help customers respond to or mitigate climate change, helping increase competitiveness and business revenue

Diversification of Business Activities

Innovative technology, system integration, and software optimization can open up a diverse array of revenue sources

Market

Changes in Consumer Preferences

As low-carbon transition has risen as a trend, customer demand for energy efficient products and corporate climate resilience has increased. A prompt focus on high-efficiency product development and marketing can enable us to gain a competitive advantage, thus increasing revenues

Access to New Markets

Early entry into emerging markets in a low-carbon transition can secure us a competitive advantage and expand the reach of our business, resulting in increased revenues

Resource Usage Efficiency

Use of Public Sector Incentives

Through participation in public sector programs, we can get relevant certifications or respond early to regulatory developments

Using More Efficient Production and Distribution Processes

Increasing the efficiency of production and distribution processes, as well as machinery and equipment, can reduce operating costs and increase productivity

Transition to More Efficient Buildings

Through energy smart buildings, electrifying new buildings, and the like, we can reduce both operating costs and carbon emissions

Energy Sources

Use of Low-Carbon Energy

By switching to low-carbon emission energy to replace coal-fired electricity and reducing energy consumption in production and delivery, we can reduce carbon emissions and bolster our resilience to climate change and related regulations

Adopt More Efficient Modes of Transport

Through green logistics or transition to relatively low-carbon modes of transport, we can reduce carbon emissions

Resilience

Participation in the Carbon Market

Through participation in the carbon market or developing carbon credits, we can accumulate the carbon credits required to counterbalance future emissions

Use of New Technologies

By applying, investing in, or developing new energy technologies, we can reduce carbon emissions while reducing energy costs

Participating in Renewable Energy Projects

By investing in renewable energy grids, energy storage systems, and so forth, we can respond to renewable energy demand and drive energy transformation while reducing the impact of carbon pricing on operating costs

Alternative/Diversified Energy Types

By strengthening the climate resilience of suppliers and customers, we can reduce duration disruptions and potential losses while boosting our ability to adapt to environmental challenges
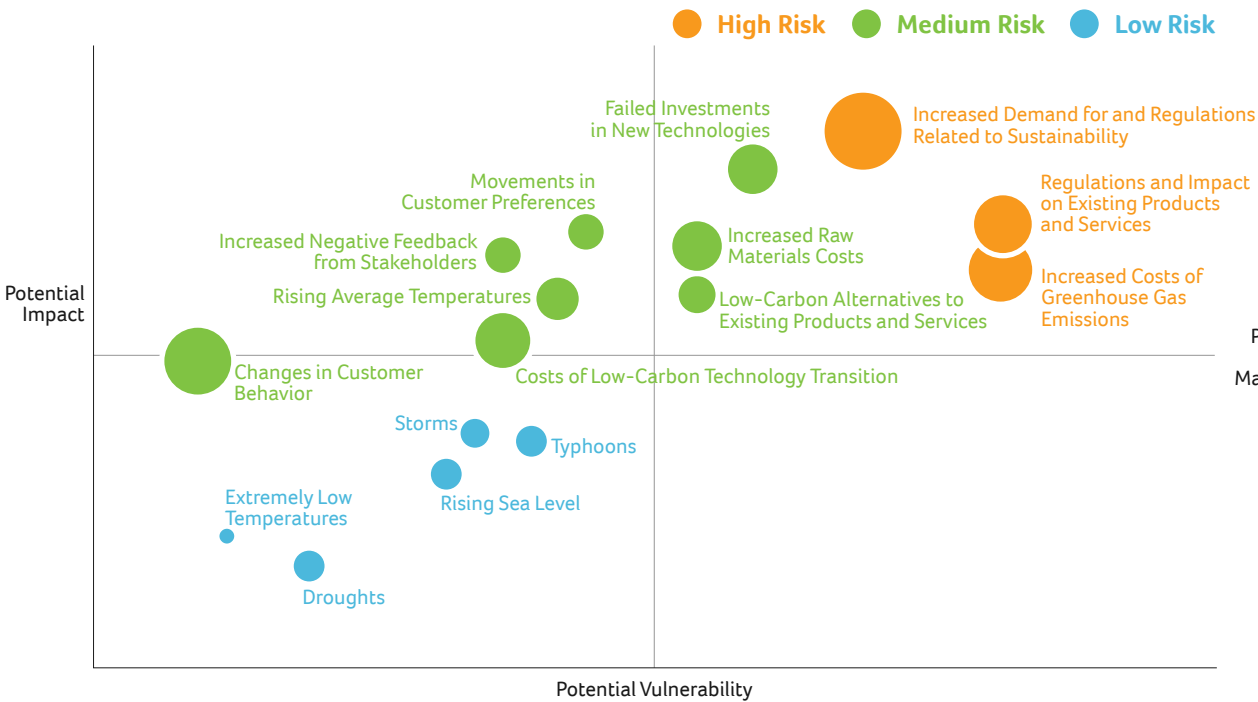
Material Climate Risks and Opportunities

Acer conducts comprehensive considerations based on the "risk impact level", "potential risk vulnerability," and "risk probability" of each risk. Climate risk classification is then conducted after these factors are multiplied, with the highest 20% classified as high risk and the lowest 20% as low risk. The climate risk matrix identified by Acer in 2022 included three high-risk factors which are transition risks, namely increased demand for and regulations related to sustainability, increased costs of greenhouse gas emissions, and regulations and impact on existing products and services.

Compared to the 2020 results, the latest findings show that government regulatory and policy actions have become Acer's biggest potential risks in response to the impact of climate change, with increased demand for and regulations related to sustainability, increased costs of greenhouse gas emissions, and regulations and impact on existing products and services being adjusted upward from low medium risk to high risk. On the other hand, with a global emphasis on climate issues actively invested in mitigating actions around energy savings and renewable energy, and Acer's adoption of strategies including insurance planning, decentralized procurement, and energy use optimization at operating locations, extreme weather—storms and the impact of the rising average temperatures have been reduced from high risk in 2020 to low- and medium-risk, respectively.

With regard to the identification of climate opportunities, the development and/or increase of low-carbon products and services and the use of low-carbon energy both present possible opportunities. Low-carbon products and services can not only meet the recent environmental and carbon footprint requirements of various national policies and regulations, but may also mitigate future carbon tax increases under carbon tariffs or other ESG related taxes. The willingness to buy environmentally friendly products may also help us acquire orders and increase business revenue while increasing brand value, bringing multiple benefits. The use of low-carbon energy not only meets the expectations of institutional investors and stakeholders on carbon reduction trends and strengthens Acer's resilience to climate change and related regulations, it is also in line with the company's goal of using 100% renewable electricity (RE100) and net zero emissions, enhancing corporate ESG image and creating a further point of opportunity.
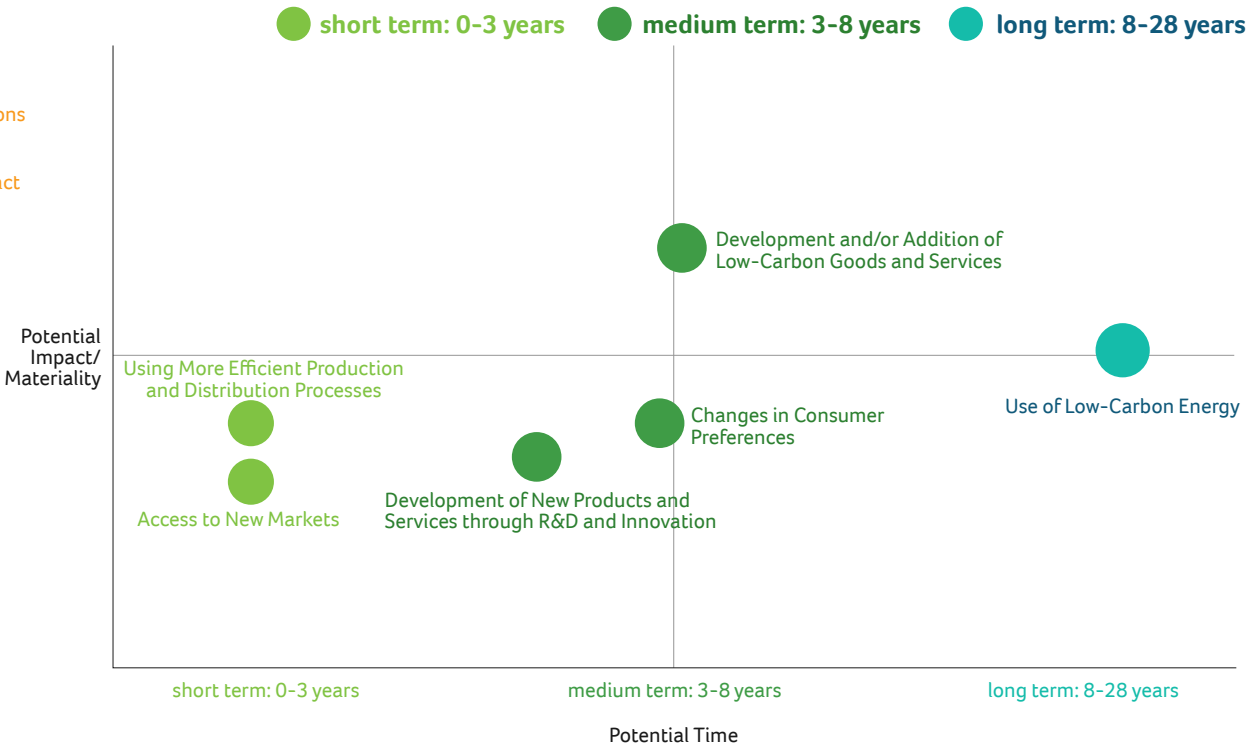
Major Climate Risk Matrix

Major Climate Opportunities Matrix

● **High Risk**   ● **Medium Risk**   ● **Low Risk**

● **short term: 0–3 years**   ● **medium term: 3–8 years**   ● **long term: 8–28 years**

Potential Impact

Failed Investments in New Technologies

Increased Demand for and Regulations Related to Sustainability

Movements in Customer Preferences

Increased Negative Feedback from Stakeholders

Regulations and Impact on Existing Products and Services

Increased Raw Materials Costs

Rising Average Temperatures

Increased Costs of Greenhouse Gas Emissions

Low-Carbon Alternatives to Existing Products and Services

Changes in Customer Behavior

Costs of Low-Carbon Technology Transition

Storms

Typhoons

Extremely Low Temperatures

Rising Sea Level

Droughts

Potential Vulnerability

Note: The size of the circles represents the likelihood of the risk occurring

Potential Impact/ Materiality

Development and/or Addition of Low-Carbon Goods and Services

Using More Efficient Production and Distribution Processes

Changes in Consumer Preferences

Use of Low-Carbon Energy

Access to New Markets

Development of New Products and Services through R&D and Innovation

short term: 0–3 years   medium term: 3–8 years   long term: 8–28 years

Potential Time

11

| Climate-related Management and the Response Measures

To effectively manage climate risks and achieve our 2050 net-zero carbon emissions target, we have identified and prioritized high-risk areas, moderate-risk areas, and opportunities based on climate risk assessments. We have also released key strategies for achieving net-zero, consisting of three main areas and nine specific strategies. Our focus is on reducing carbon footprints comprehensively through three strategic approaches: business operations, product services, and low-carbon supply chains. We have developed concrete action plans to address the identified climate-related issues.

Transition Risk

Regulation and Policy

Increased Demand for and Regulations Related to Sustainability — Impact Period: Medium

Emerging sustainable product design specifications such as the Ecodesign for Sustainable Products Regulation, climate disclosure requirements (e.g. Taiwan listed company sustainability roadmap, EU Corporate Sustainability Reporting Directive), and renewable energy or environment-related regulations and policies may lead to increased operating costs for companies due to compliance with relevant regulations.

Response Measures and Action Plans

Acer Corporate Sustainability Committee (CSC), chaired by the Chairman and CEO, with the ESG Office serving as the Executive Secretary. The Corporate Sustainability Committee establishes working groups on corporate governance, risk management, innovation and product lifecycle, environmental management, and supply chain management. These groups address significant sustainability issues across departments, facilitating communication, coordination, and planning for important issues. They also execute and monitor action projects to track progress and effectiveness.

The ESG Office is led by the Chief Sustainability Officer, who serves as the Executive Secretary of the Corporate Sustainability Committee. In addition to reporting regularly to the Corporate Sustainability Committee on trends, impacts and performance on sustainability-related issues, the ESG Office also plays a communication and integration role between the working groups and the Corporate Sustainability Committee.

In addition, to communicate effectively with our global locations, we have also established ESG Executive Secretary at Regional Headquarters, who is responsible for formulating ESG action plans and programs at regional headquarters to implement various sustainability issues management.

Increased Costs of Greenhouse Gas Emissions — Impact Period: Medium

Trends in carbon valuation are gradually becoming clear (such as carbon taxes and carbon fees). The European Union Carbon Border Adjustment Mechanism (CBAM) is set to enter a test period from October 2023 and be officially implemented in 2026. Taiwan's Climate Change Response Act is expected to impose carbon fees in 2024. Greenhouse gas emissions exceeding the core quota will incur greenhouse gas emissions costs, and may cause suppliers to pass on these costs and adjust pricing, affecting product competitiveness.

Response Measures and Action Plans

Acer shoulders the mission of being a leading brand and promises to achieve net zero emissions by 2050, increase the share of renewables in energy consumption to 100% by 2035 and set Science Based Targets (SBT) aligned with the 1.5°C carbon reduction pathway. By 2030, Acer aims to reduce carbon emissions by 50% in organizational operations compared to 2019, and reduce the value chain emissions by 35% compared to 2020. In addition, by 2025, the Acer personal computer product average energy consumption will be reduced by 45% compared to 2016 and the computer and displays product will reach 20-30% post-consumer recycled plastic material content.

We announced our net-zero strategy outlining nine directions under three major pillars of operations, products and services, and value chain. The nine strategies are: minimize energy consumption; use renewable energy; carbon removal and offsets; low-carbon products and services; choose sustainable materials; smart, circular and renewable applications; commit to carbon reduction targets, green manufacturing and logistics; and realize low carbon and circular economies to reduce the overall carbon footprint.

Regulations and Impact on Existing Products and Services — Impact Period: Short

Additional requirements from environmental laws, energy labels (e.g. Energy Star, EPEAT, TCO, etc.), life cycle assessments, and product carbon footprint reports worldwide may increase Acer's operating costs and may cause suppliers to adjust quotations due to the addition of regulations, passing along increases in R&D and procurement costs.

Response Measures and Action Plans

As environmental labeling standards are revised, Acer continues to track and collaborate with ODMs, evaluating and responding to new standards early to ensure that we have sufficient time to smoothly introduce changes to our products. For example, the revision of EPEAT program includes four modules: Climate Change Mitigation, Sustainable Use of Resources (or Circularity), Reduction of Chemicals of Concern, and Corporate ESG Performance, which will be applied to all EPEAT product categories and starting with Computers and Displays, Imaging Equipment, Mobile Phones, Servers and Televisions. In 2022, 13% of our products are EPEAT registered, 10% are TCO Certified, and 69% of our notebook, desktop, and monitor products obtained the ENERGY STAR certificate.

Furthermore, since 2019, Acer has prepared product life cycle assessment reports and carbon footprint reports for representative products and has gradually introduced product carbon footprint calculation and assessment. notebook products (including Chromebooks) and representative models of desktop and displays products.

Risk impact period definition: short term: 0-3 years, medium term: 3-8 years, long term: 8-28 years

Transition Risk

Market

Increased Raw Materials Costs   Impact Period: Medium

Increased demand for renewable energy facilities/equipment, low-carbon circular materials (such as PCRs) due to climate change may result in increased productions costs, affecting the price of profitable products and potentially impacting revenues.

Response Measures and Action Plans

Acer supports the concept of resource recycling, but also actively uses post-consumer recycled(PCR) Plastics in its products. In 2022, 17% of post- consumer recycled plastics were used in computers and displays, and we extended the application to projectors, computer peripherals and other products. A total of more than 30 million computer and display products use post-consumer recycled plastics from 2020-2022.

We also attached great importance to the issue of marine waste plastic pollution. Acer uses recycled ocean-bound plastic (OBP) and converts it into recyclable materials. Starting from 2021, ocean-bound plastics have been utilized in notebook products to make Ocean Glass touchpads, which are currently used in the Chrome, Swift, Aspire Vero, Travelmate P2 and other product series.

In addition, we launched the Earthion initiative to harness the strength of our staff and supply chain partners to strengthen cooperation in green innovation design, management of chemical substances used in production process, green energy use, low-carbon logistics, packaging materials and design, and product recycling, and resource reuse.

Technological

Costs of Low-Carbon Technology Transition   Impact Period: Short

The electronics industry chain faces technical challenges in low-carbon transition, from the development and use of low-carbon materials and optimization of system energy efficiency, to the development of electric and hydrogen energy, carbon-negative technologies, and so on. International brands will also require their suppliers to invest more in addition to the cost of their own low-carbon transition, resulting in increased capital due to low-carbon technology R&D.

Response Measures and Action Plans

Acer supports the concept of resource recycling, but also actively uses post-consumer recycled(PCR) Plastics in its products. In 2022, 17% of post-consumer recycled plastics were used in computers and displays, and we extended the application to projectors, computer peripherals and other products. A total of more than 30 million computer and display products use post-consumer recycled plastics from 2020-2022.

We also attached great importance to the issue of marine waste plastic pollution. Acer uses recycled ocean-bound plastic (OBP) and converts it into recyclable materials. Starting from 2021, ocean-bound plastics have been utilized in notebook products to make Ocean Glass touchpads, which are currently used in the Chrome, Swift, Aspire Vero, Travelmate P2 and other product series.

In addition, we launched the Earthion initiative to harness the strength of our staff and supply chain partners to strengthen cooperation in green innovation design, management of chemical substances used in production process, green energy use, low-carbon logistics, packaging materials and design, and product recycling, and resource reuse.

Failed Investments in New Technologies   Impact Period: Long

If Acer invests in new technologies (such as IoT and AI) that have high carbon emissions and are replaced by other low-carbon technologies, or if partners switch to low-carbon technologies, this could result in the failure of the original investment in new technologies and in Acer suffering financial losses.

Response Measures and Action Plans

Continuous innovation is a core value for Acer, as through it, we can gain a competitive edge. Our patent strategy is to invest resources in continuous innovative R&D, building a patent network and demonstrate the benefits of our patents while also establishing a set of strict patent measures to protect our R&D achievements. Acer's domestic patent applications and issued patents in Taiwan have remained among the top five domestic legal entities for four consecutive years.

Among them, Acer's Vero line, designed to use a certain percentage of post-consumer recycled plastics (PCRs), ocean-bound plastics (OBPs), and recyclable packaging, the eKinekt BD 3 bike desk allows users to exercise on a stationary bicycle while also generating clean power to charge their work devices while working. Furthermore, Acer Mobile Power System (MPS), bicycle manufacturer Ideal Bike Corporation, and LED manufacturer Ligitek have jointly entered a shared e-bike platform and filed a number of related patent applications.

Risk impact period definition: short term: 0-3 years, medium term: 3-8 years, long term: 8-28 years

Physical Risk	Climate-Related Opportunities
Long-term Risks	**Products and Services**

Rising Average Temperatures
Impact Period: Long

According to the IPCC's AR6 report, global warming has led to an inevitable rise in temperature by 1.5°C between 2021 and 2040. The average temperature rise will lead to a significant increase in air conditioning system power consumption at Acer's cloud server rooms, offices, and supply chain product assembly sites, not only consuming more power, but also leading to increased carbon emissions. In addition, Acer's product assembly plants may be affected by higher demand, unstable electricity infrastructure, insufficient backup capacity, local government power limiting measures, or large-scale power outages, resulting in adverse impacts on product shipment and finances.

Response Measures and Action Plans

We continue to implement the energy efficiency program including (1) implementing energy-saving projects, (2) Setting the RE100 goal by 2035, (3) Establishing our solar PV power generators, and (4) Investing in renewable energy development, and exploring the feasibility of new power-saving measures.

For the risk adaptation of our existing offices, we focus on indoor temperature management. We take measures, such as the use of thermal insulation materials, the use of natural ventilation, and sunshade facilities. In addition, we make internal temperature-setting guidelines, which will be launched in 2023, for all our offices worldwide. In this guideline, we ask all our offices to follow and take climate adaptation measures, such as evaluating the thermal comfort, humidity, temperature, and ventilation of the office, and encouraging employees to wear clothing made of breathable and comfortable materials, etc. As for the new operations, we will take our due diligence and start a process to examine the related risk. After that, we will consider an overall plan to adapt to potential physical and transition climate risks.

We brought together our employees and supply chain partners to expand the reach of sustainability efforts by launching the Earthion initiative, with the goal bringing everyone together to create a better future and achieve our ambitious goal of a clean planet.

Development and/or Addition of Low-Carbon Goods and Services
Impact Period: Medium-Long

Facing global low-carbon transitions and trends, developing or enhancing the application value of low-carbon products or related low-carbon services, can help boost business revenue.

Response Measures and Action Plans

Acer employs the concept of circular economies and strives to reduce the impact of our products on the environment throughout their life cycles. In the design phase, we plan and decide on models and proportions of post-consumer recycled plastics, carefully selecting suppliers. For packaging materials, we use environmentally friendly materials and reduce packaging volume and weight by simplifying packaging and using uniform packaging dimensions and printed products. During the shipping phase, we continue to implement an optimized ground operation model at production sites through close cooperation with logistics providers. In usage, we have introduced "Modern Standby," based on the US Energy Star standard, as the basis for product design, providing a power management model that continues to deliver more products with low energy consumption to consumers. In product recall, we continue to implement recycling programs around the world and support Individual Producer Responsibility (IPR). We are committed to working with stakeholders such as governments, consumers, channels, and retailers to share responsibility for e-waste management and recycling.

In 2022, in addition to our Vero series being made with post-consumer recycled plastics (PCRs), we also introduced the eKinekt BD 3 Bike Desk, which converts kinetic energy into electricity; electric scooters for easy mobility; and other applications of green energy and circular economies such as AI electric assist bikes that meet the diverse needs of riders.

Risk impact period definition: short term: 0-3 years, medium term: 3-8 years, long term: 8-28 years

Climate-Related Opportunities

Energy source

Use of Low-Carbon Energy   *Impact Period: Medium-Long*

By switching to low-carbon emission energy to replace coal-fired electricity and reducing energy consumption in production and delivery, we can reduce carbon emissions and bolster our resilience to climate change and related regulations

Response Measures and Action Plans

The use of low-carbon energy not only meets the expectations of institutional investors and stakeholders regarding carbon reduction trends, but also strengthens our resiliece against climate change and regulations and enhances corporate ESG image and brand value. In 2021, we announced that we had joined the RE100 initiative to achieve our goal of 100% renewable electricity use in our operations by 2035. We look forward to expanding our investment in green energy and energy storage systems through our supply chain partnerships and to launching related energy storage products.

To further reduce carbon emissions in shipping, Acer trialed biofuels in transportation in Q4 of 2022 and collaborated with logistics supplier Kuehne+Nagel to transport 50 standard shipping containers from China to Europe, reducing a total of 40 tons of carbon emissions.

Products and services

Changes in Consumer Preferences   *Impact Period: Short-Medium*

As low-carbon transition has risen as a trend, customer demand for energy efficient products and corporate climate resilience has increased. A prompt focus on high-efficiency product development and marketing can enable us to gain a competitive advantage, thus increasing revenues

Response Measures and Action Plans

As net zero emissions have become a major issue driving international policy and industrial development, corporate customers tend to look for products and services with less environmental impact, as well as suppliers with the same awareness, and continue to incorporate green procurement practices into their assessment criteria for orders. Preference for green products is also gradually increasing, and this is reflected in product purchases.

As such, we continue to strengthen communication and disclosure around the environmental performance of our products. At the product design end, in addition to complying with legal and regulatory requirements for product sales in all regions, Acer continues to improve product energy efficiency, reduce the use of hazardous chemicals, facilitate recycling, and extend product life, all of which demonstrate our commitment to optimization of product design.

Risk impact period definition: short term: 0-3 years, medium term: 3-8 years, long term: 8-28 years
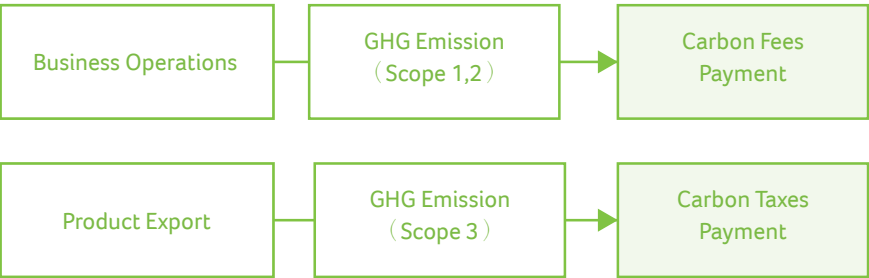
| Climate-related Scenario

In order to assess the financial impact of climate impact, Acer sought external cooperation to develop financial quantitative and situational analysis, to carry out an assessment of the potential financial impact of Acer's climate-related transformation risks, physical risks, and climate opportunities to accurately measure the amount and distribution of resources to be invested.

Acer's climate scenarios make reference to climate scenarios published by international organizations, including RCP 2.6 from the Intergovernmental Panel on Climate Change (IPCC), RCP 8.5, NZE 2050 by International Energy Agency (IEA), and Taiwan's Nationally Determined Contributions (NDCs Taiwan).

Increased cost of greenhouse gas emissions

Background Description

Quantification of Acer's financial impact in different scenarios under the climate risk of rising greenhouse gas emissions costs by 2030, including carbon fees and other related regulations in regard to Taiwan's carbon fees and other relevant requirements at each business location, along with expenses incurred by low-carbon transition and the passing along of costs incurred with relation to greenhouse gas emissions by upstream suppliers. This, along with the export of products to the US, China, and countries in the EU which levy carbon tariffs, may result in increased financial costs.

| Business Operations | → | GHG Emission（Scope 1,2） | → | Carbon Fees Payment |

| Product Export | → | GHG Emission（Scope 3） | → | Carbon Taxes Payment |

Scenario Assumptions and Results

Scenario 1 is Taiwan's nationally determined contribution scenario (NDCs Taiwan)

Committed to reducing the greenhouse gas emissions of business as usual (BAU) by 50% by 2030. With reference to the International Energy Agency's (IEA) Announced Pledges Scenario (APS), this scenario assumes that all climate commitments made by governments around the world, including NDC and long-term net-zero targets, will be fulfilled on time.

According to Taiwan's nationally determined contribution scenarios (NDCs Taiwan), the US and EU carbon prices refer to the IEA's APS . The developed economies with net zero commitments are expected to be US$135 per ton in 2030. The emerging markets with net-zero commitments such as China, and the carbon price is expected to be US$40 per ton in 2030.

Scenario 2 is the IEA's Net-Zero Emissions (NZE) scenario

Assuming the global energy sector will achieve net-zero CO2 emissions by 2050.

According to the IEA NZE scenario, the prices of the developed economies with net-zero commitments such as the EU and the US, and the carbon price is expected to be US$140 per ton in 2030. The emerging markets with net-zero commitments such as China, and the carbon price is expected to be US$90 per ton in 2030.

Response Measures and Action Plans

Acer shoulders the mission of being a leading brand and promises to achieve net zero emissions by 2050, increase the share of renewables in energy consumption to 100% by 2035 and set Science Based Targets (SBT) aligned with the 1.5°C carbon reduction pathway. By 2030, Acer aims to reduce carbon emissions by 50% in organizational operations compared to 2019, and reduce the value chain emissions by 35% compared to 2020. In addition, by 2025, the Acer personal computer product average energy consumption will be reduced by 45% compared to 2016 and the computer and displays product will reach to 20-30% post-consumer recycled plastic material content.

We announced our net-zero strategy outlining nine directions under three major pillars of operations, products and services, and value chain. The nine strategies are: minimize energy consumption; use renewable energy; carbon removal and offsets; low-carbon products and services; choose sustainable materials; smart, circular and renewable applications; commit to carbon reduction targets, green manufacturing and logistics; and realize low carbon and circular economies to reduce the overall carbon footprint.

Joins RE100 Initiative

In 2021, we announced that we had joined the global RE100 initiative and pledged to use 100% renewable energy by 2035. RE100 is the global corporate renewable energy initiative bringing together hundreds of large and ambitious businesses committed to 100% renewable electricity.

Acer strongly believes that by working together with its stakeholders, it can create a larger, more powerful impact. As a member of the RE100 initiative, Acer has set a commitment to source 100% renewable energy among all worldwide operations and subsidiaries by year 2035. In addition, we have set a short-term target of 80% of our key suppliers committing to RE100 or science-based carbon reduction targets (SBTs) by 2025. By 2022, 60% of our key suppliers had responded to our expectations and set long-term commitments on green energy use.

Jointly Launched Taiwan Climate Partnership

Together with seven other major companies in the ICT industry, Acer took part in launching the Taiwan Climate Partnership. The members of the TCP have taken the initiative to commit to carbon reduction targets and bring together more than 4,000 supply chain manufacturers to meet international sourcing requirements and commence a transition to low-carbon operations.

The mission of the Taiwan Climate Partnership is to assist Taiwan's supply chain in green energy and carbon reduction to connect with the international community, and to combine the strengths of its partners to communicate extensively with international organizations to connect with the global climate trends. In the future, the Partnership will focus on four core tasks, including the layout of emerging climate technologies, green power and energy technologies, carbon market mechanism, and public participation.

Earthion Initiative

We are committed to reducing value chain carbon emissions by 35% by 2030 compared to the 2020 base year through supplier climate initiatives, supplier climate capacity building, and supply chain greenhouse gas management strategies. In 2021, we brought together our employees and supply chain partners to expand the reach of sustainability efforts by launching the Earthion initiative, with the goal bringing everyone together to create a better future and achieve our ambitious goal of a clean planet. Through the Earthion Sustainability Platform, we share the spirit of sustainability with our partners and suppliers, helping to address the environmental challenges of our generation through innovative and integrated solutions. To this end, we are focused on innovative green product design, chemical substance management in production processes, renewable energy use, low-carbon emission logistics, packaging materials and design, and product recycling & reuse, combining the efforts of our suppliers and partners to accelerate the development of green designs and processes and completely minimize our environmental impact.

For example, we are working with our designers and partners, including Golden Arrow, ShinShin, SunYoung, Quanta and Wistron, to find innovative ways to use environmentally friendly materials without sacrificing the durability and robustness of our products, targeting up to 30% post-consumer recycled plastic content for our core products by 2025. We are collaborating with Compal and Quanta to enhance our waste management system to remove the excess security tape used in the pallet packing process, which is expected to save approximately 5,500 kilometers of tape by 2023, which in total is about the distance from London to New York. We have partnered with logistics partners such as DHL to build a transportation carbon inventory system and improve the accuracy of our transportation carbon calculations through a unified approach to measuring and reporting Acer's greenhouse gas emissions during transportation.

Through the Earthion Sustainability Platform, we share the spirit of sustainability with our partners and suppliers, helping to address the environmental challenges of our generation through innovative and integrated solutions. To this end, we are focused on innovative green product design, chemical substance management in production processes, renewable energy use, low-carbon emission logistics, packaging materials and design, and product recycling & resource reuse, combining the efforts of our suppliers and partners to accelerate the development of green designs and processes and completely minimize our environmental impact.

Regulations and Impact on Existing Products and Services

Background Description

Where products may not comply with regional low-carbon product specifications or standards or ones that may be promoted on the customer end in the future (e.g., product energy consumption standards, product carbon footprint information, etc.), this may result in an inability to sell in a particular region, meet public sector procurement specifications, or remain competitive in terms of products. Considering current product sales and profitability, we are focused on commercial/Chrome notebook, desktop, and display products and quantifying financial impacts based on major sales markets in various regions of the world. With reference to the requirements of EU Green Public Procurement and the US' Federal Acquisition Regulation, we have formulated the following scenarios to quantify financial impact.

Scenario Assumptions and Results

Assuming that countries and regions give priority to purchasing products with circular economical design or low environmental impact, Acer products without EPEAT registration will be unable to participate in bidding or sell in various places, which may affect annual revenue; Additional design verifications, product certifications, and parts replacement to meet specifications or standards will also incur costs associated with R&D and production.

Response Measures and Action Plans

Acer has formulated a comprehensive green products strategy, carefully considering environmental impact in every stage of our products' life cycles. This includes everything from selecting materials during design, through packaging and shipping, to usage and recycling. Our hope is that in this way we will be able to work with consumers to reduce our collective environmental load. In response to the needs of our customers for products or tenders with circular economical design or low environmental impact, we consider product planning and sales in various regions and provide more product choices, including products that meet TCO verification and product carbon footprint reports.

In addition, in 2021 Acer also launched the Aspire Vero line, the first line of eco-friendly notebooks made with post-consumer recycled plastics and registered EPEAT-Silver, to minimize the impact of related regulations on existing products and gradually build up the climate risk resilience of our products.

From 2022, we not only expanded the Vero concept on sustainable design to more product lines and models, but also launched more green energy application products such as eKinekt BD 3 which converts the kinetic energy generated by users' pedaling into electricity, E-scooters that offer eco-friendly travel options, and Acer Ebii which with AI-driven e-bike adapts to riding conditions and preferences for the optimal riding experience.

Green Energy Application and Circular Economy Products

Acer
Vero Products Made with Recycled Materials

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

In 2021, Acer launched the first eco-friendly laptop Aspire Vero. From 2022, Acer expanded the Vero concept on sustainable design to more product lines and models, reducing energy consumption and pollution generated in the development of new products. At present, there are a variety of laptops and monitors, as well as all-in-one desktop computers, projectors, and peripheral accessories, all of which adopted the Vero concept. They use paint-free chassis, environmentally friendly recycled materials and packaging to reduce carbon emissions and pollution. Vero products have also obtained international certifications such as TCO, EPEAT or the US ENERGY STAR label.

Acer Gadget
Bike Desks with Kinetic Energy Conversion

12 RESPONSIBLE CONSUMPTION AND PRODUCTION | 13 CLIMATE ACTION

The Acer eKinekt BD 3 combines a stationary bike and a desk, allowing users to exercise while working. The bike desk's energy generated by pedaling is converted into electricity to power the machine and charge personal devices. When the pedals are in rotation, kinetic energy can be converted into electricity where pedaling at 60 RPM for one hour can generate about 75 watts of electricity. The bike desk can charge laptops and other devices, while accomplishing both work and exercise. The desk surface and outer case are made from post-consumer recycled plastic (PCR) to demonstrate our long-term commitment to finding a balance between innovative solutions and a sustainable environment.

Acer eKinekt BD 3 is equipped with USB Type-A and USB Type-C ports, which can charge multiple mobile devices at the same time, and it comes with a bag hook and beverage holder. Users can easily adjust the desk surface position of eKinekt and switch between work or sports mode. The exclusive mobile app that comes with the Acer eKinekt BD 3 can track user exercise history over a certain period, displaying information such as riding time, calories consumed, and power generation.

Acer Gadget
AI-Driven e-Bikes

11 SUSTAINABLE CITIES AND COMMUNITIES | 13 CLIMATE ACTION

Acer ebii is an electric bicycle with AI technology at the core to meet the diverse demand of cyclists through the smart ebii Box. It utilizes ebiiAssist technology to automatically adapt to route conditions, pedaling power and user preferences, providing users with a relaxed and pleasant ride and an uninterrupted journey. Acer ebii is equipped with long-lasting battery life, smart security, and anti-theft capabilities with a streamlined and lightweight design, allowing users to roam the city streets with style, comfort, and convenience.

With our innovative technology and creative design, the Acer ebii electric bicycle implements Acer's commitment to corporate sustainability, demonstrates excellence in sustainable development and user experience, and provides urban commuters with convenient, safe and environmentally friendly mobility options.

Mobile Power System Inc.
Mobile Power Systems

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE | 11 SUSTAINABLE CITIES AND COMMUNITIES

The battery module is designed with an advanced structure and a battery safety management system to meet various high-impact applications. The Acer controller integrates batteries and motors with software, hardware and IoT technologies to power the e-bike power system with efficient batteries and motors performance.

Currently, there are numerous global e-bike and shared e-bike manufacturers using the battery modules and power systems developed by Acer Mobile Power System Inc.

Acer Mobile Power System Inc. provides affordable, safe, environmentally friendly, and robust transportation equipment to realize our concept of sustainable city.

Increased Average Temperature

Background Description

According to the IPCC's AR6 report, global warming has led to an inevitable rise in temperature by 1.5°C between 2021 and 2040. The average temperature rise will lead to a significant increase in air conditioning system power consumption at Acer's cloud server rooms, offices, and supply chain product assembly sites, not only consuming more power, but also leading to increased carbon emissions. In addition, Acer's product assembly plants may be affected by higher demand, unstable electricity infrastructure, insufficient backup capacity, local government power limiting measures, or large-scale power outages, resulting in adverse impacts on product shipment and finances.

Scenario Assumptions and Results

Acer used the Taiwan Climate Change Protection Information (TCCIP) and Adaptation Knowledge Platform developed by the Ministry of Science and Technology (MOST) and the National Science and Technology Center for Disaster Reduction (NCDR) to assess the financial impact of rising average temperatures and the resultant increase in power consumption and subsequent higher direct operating costs, looking particularly at Acer's headquarters and cloud server room, both of which consume more electricity. As for the risk of an increase in average temperature, based on the data from TCCIP, under the RCP2.6 scenario, the annual average daily temperature in Taiwan may increase by 0.64-1.64°C from 2021 to 2040; under the RCP8.5 scenario, in 2036-2065, the annual average daily temperature in Taiwan (headquarters) may increase by 0.64-1.64℃ and 1.5-2°C. Based on the Taiwan Energy Bureau's data, it is estimated that every 1-degree decrease in air-conditioning temperature will increase electricity consumption by 6%, resulting in an annual 12% increase in electricity consumption.

Response Measures and Action Plans

We continue to implement the energy efficiency program including (1) implementing energy-saving projects, (2) Setting the RE100 goal by 2035, (3) Establishing our solar PV power generators, and (4) Investing in renewable energy development, and exploring the feasibility of new power-saving measures.
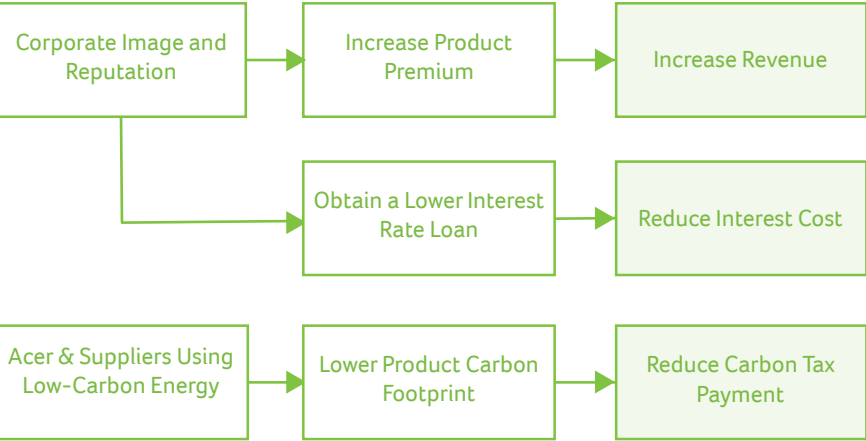
For the risk adaptation of our existing offices, we focus on indoor temperature management. We take measures, such as the use of thermal insulation materials, the use of natural ventilation, and sunshade facilities. In addition, we make internal temperature-setting guidelines, which will be launched in 2023, for all our offices worldwide. In this guideline, we ask all our offices to follow and take climate adaptation measures, such as evaluating the thermal comfort, humidity, temperature, and ventilation of the office, and encouraging employees to wear clothing made of breathable and comfortable materials, etc. As for the new operations, we will take our due diligence and start a process to examine the related risk. After that, we will consider an overall plan to adapt to potential physical and transition climate risks.

As for the suppliers, we engage with our suppliers by sharing the risks that supply chains may encounter regarding climate issues, inviting Tier-1 to Tier-3 suppliers to participate in the CDP, auditing their overall carbon management performance by ESG scorecards, and launching the Earthion initiative, with the goal of bringing everyone together to create a better future and achieve our ambitious goal of a clean planet. In August 2022, Acer held an eco-conscious campaign to motivate its employees, partners, and suppliers to reduce carbon footprints during a "21-Day Challenge." The campaign leveraged Acer's ability to bring together the strengths of its supply chain partners a nd increase their awareness of energy saving and lower the influence of electricity in the manufacturing stage.

Use of Low-Carbon Energy

Background Description

Using low-carbon energy can reduce carbon emissions in production and transportation, strengthen resilience in response to climate-related regulations, and meet the expectations of stakeholders and institutional investors on the carbon reduction issue. It can directly or indirectly increase our company's image/reputation, thereby enhancing the overall product sales and revenue. Furthermore, we may further obtain low-interest loans from banks (such as green bonds, green loans, sustainability-linked loans, etc.) to reduce interest expenses.

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Corporate Image and      Increase Product        Increase Revenue
Reputation          →    Premium            →

                         Obtain a Lower Interest  Reduce Interest Cost
                    →    Rate Loan          →

Acer & Suppliers Using   Lower Product Carbon    Reduce Carbon Tax
Low-Carbon Energy   →    Footprint          →    Payment
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Scenario Assumptions and Results

We use a variety of scenarios to calculate our benefits in using low-carbon energy, including (1) According to a research report by the University of Pennsylvania, in 2021, 76%-88% of respondents are willing to pay 10% more for green products, that is 30% growth than the year 2019. Therefore, we take 10% as the price increase rate of the green products acceptable to consumers. (2) As for low-interest loans, since 2019, a number of banks have launched Sustainability-linked Loans based on various conditions such as their own regulations, corporate industry characteristics, ESG operating activities, and customer credit risks. We assumed these loans' interest rates were 0.25% less than the general interest rate. (3) In terms of reducing product carbon footprint, we assume that our product carbon footprint will be reduced by using low-carbon energy in the production and transportation process leading to a reduction payment in carbon tariff regulations.

Scenario 1 is Taiwan's nationally determined contribution scenario (NDCs Taiwan)

- Committed to reducing the greenhouse gas emissions of business as usual (BAU) by 50% by 2030. With reference to the International Energy Agency's (IEA) Announced Pledges Scenario (APS), this scenario assumes that all climate commitments made by governments around the world, including NDC and long-term net-zero targets, will be fulfilled on time.

  According to Taiwan's nationally determined contribution scenarios (NDCs Taiwan), the US and EU carbon prices refer to the IEA's APS. The developed economies with net zero commitments are expected to be US$135 per ton in 2030. The emerging markets with net-zero commitments such as China, and the carbon price is expected to be US$40 per ton in 2030.

Scenario 2 is the IEA's Net-Zero Emissions (NZE) scenario

- Assuming the global energy sector will achieve net-zero CO_2 emissions by 2050.

  According to the IEA NZE scenario, the prices of the developed economies with net-zero commitments such as the EU and the US, and the carbon price is expected to be US$140 per ton in 2030. The emerging markets with net-zero commitments such as China, and the carbon price is expected to be US$90 per ton in 2030.

Response Measures and Action Plans

The use of low-carbon energy not only meets the expectations of institutional investors and stakeholders regarding carbon reduction trends, but also strengthens our resilience against climate change and regulations and enhances corporate ESG image and brand value. In 2021, we announced that we had joined the RE100 initiative to achieve our goal of 100% renewable electricity use in our operations by 2035. We look forward to expanding our investment in green energy and energy storage systems through our supply chain partnerships and to launching related energy storage products.

To further reduce carbon emissions in shipping, Acer trialed biofuels in transportation in Q4 of 2022 and collaborated with logistics supplier Kuehne+Nagel to transport 50 standard shipping containers from China to Europe, reducing a total of 40 tons of carbon emissions.

Risk Management

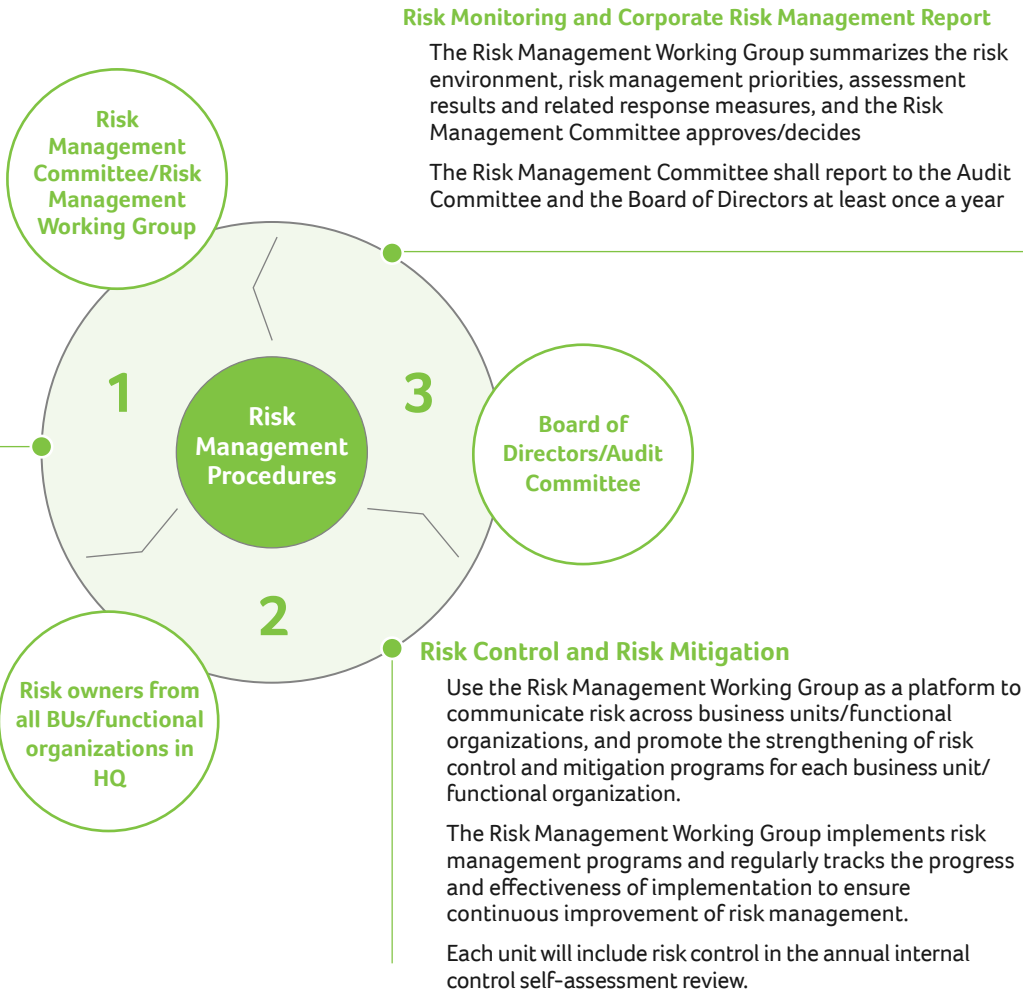## | Risk Management Procedures

Acer incorporates climate risk identification and assessment into the enterprise risk management (ERM) process, through the three lines of defense of the risk management organization, self-assessment and process improvement of each business unit, procedural guidance and legal compliance of each support department, and the audit management procedures of internal audit unit. We integrate the ERM implementation with the daily operating procedures of each department/unit and the Company's business targets, and integrate the ESG and climate factors into the decision-making process. Through the PDCA cycle, we conduct regular reviews on the effectiveness of the risk management plan and the improvement possibility during the working group meeting for continuous adjustment/improvement.

Risk Management Procedures

Three Layers of Defense Structure for Risk Management Organization

Risk Monitoring and Corporate Risk Management Report

The Risk Management Working Group summarizes the risk environment, risk management priorities, assessment results and related response measures, and the Risk Management Committee approves/decides

The Risk Management Committee shall report to the Audit Committee and the Board of Directors at least once a year

Risk Management Committee/Risk Management Working Group

Risk Management Procedures

1 3

2

Board of Directors/Audit Committee

Risk owners from all BUs/functional organizations in HQ

Risk Identification and Risk Assessment

Risk Management Working Group members identify risks and assess potential risk scenarios and operational impacts using relevant risk management assessment tools such as Risk Register and Risk Map.

Risk Control and Risk Mitigation

Use the Risk Management Working Group as a platform to communicate risk across business units/functional organizations, and promote the strengthening of risk control and mitigation programs for each business unit/functional organization.

The Risk Management Working Group implements risk management programs and regularly tracks the progress and effectiveness of implementation to ensure continuous improvement of risk management.

Each unit will include risk control in the annual internal control self-assessment review.

Three Layers of Defense Structure for Risk Management Organization

Director Level — **Audit Management** Internal Audit Unit

Management Level — **Procedure Guidance and Compliance**

Operation Level — **Self-Inspection and Process Improvement** All Business Units

To integrate the implementation of ERM with the daily operation procedures of each department/unit and the Business Objective, each department/unit first compiles 46 Key Performance Indicators (KPIs) and then develops/identifies 82 Risk Scenarios that may cause operational impacts on the aforementioned KPIs. Based on the identified and analyzed risk items, the relevant department staff are assigned to prepare the subsequent risk management strategy and related implementation plan (Risk Mitigation), including the common risk management responses in practice: Loss Prevention, Avoidance, Separation & Duplication, Transfer and Retention. Duplication, Transfer, and Retention, etc., and evaluate the appropriate resource input, implementation priorities, and follow-up progress tracking methods. At the same time, we have developed the Incident Response and Crisis Management plans to minimize the negative impact of potential risks on our business objectives and to strengthen the risk resilience of our overall operations.

Under the threats of global climate change and extreme weather phenomena, our supply chain management department assesses the potential low-temperature variation during the shipment period for a specific shipment route and depending on the type and characteristics of the product, consults with the insurance industry/risk management consultant to discuss and cooperate with the shipping company to take feasible and cost-effective damage prevention measures.
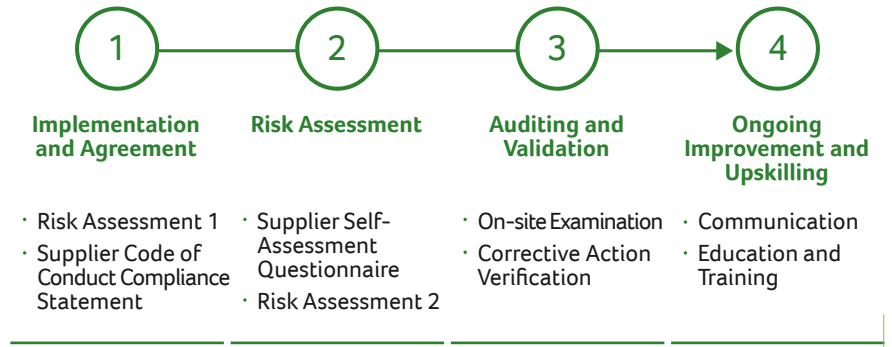
For infrastructure service interruptions and other operation-related risks (e.g., typhoons, floods, fires, etc.) with a high probability of occurrence, similar to the impact of the Texas snowstorm, Acer has started to develop a basic emergency response/business continuity management plan (IR/BCP) for global warehousing locations in 2021. The Company started with a pilot project at the Taiwan headquarters (the project was completed in January 2022 and the on-site exercise and validation were completed at Acer's Taoyuan warehouse), with a view to gradually evaluate and incorporate the implementation/ improvement and conduct regular audits according to the current resource situation at each global warehouse location. In addition, Acer will incorporate it into the evaluation items for the initial selection of warehouse service providers, in order to gradually and orderly strengthen the risk resilience in warehouse logistics management.

| Climate-related Risk Management on Supply Chain

On the supplier social and environmental management processes, we have adopted the RBA Code of Conduct and, with reference to the RBA Supplier Engagement Process, make use of a range of supplier social and environmental management approaches, engaging with suppliers through multiple channels and working with them to improve their capabilities. The implementation of such management approaches also entails assessment, validation, and ongoing improvement thereof. Through management measures at every stage, Acer and our suppliers are able to work together effectively to establish a sustainable supply chain with a focus on environmental and social issues.

On the supply chain GHG management, Acer has joined the CDP supply chain system since 2008, and has further used the ESG scorecard to review suppliers' performance in overall carbon management, carbon reduction results and renewable energy usage, and to manage the environmental impact caused by the supply chain, and to include supplier scores in procurement evaluations to promote the overall supply chain to improve its ability to respond to climate change.

In addition, we implement Supplier ESG scorecards to review Supplier ESG practices and performance. This score is included in quarterly business review (QBR) for key product lines and critical components and is presented to Acer and Supplier senior executives to create a driving force in the business relationship.

Supply Chain Social and Environmental Management Process

①──②──③──④

Implementation and Agreement
· Risk Assessment 1
· Supplier Code of Conduct Compliance Statement

Risk Assessment
· Supplier Self-Assessment Questionnaire
· Risk Assessment 2

Auditing and Validation
· On-site Examination
· Corrective Action Verification

Ongoing Improvement and Upskilling
· Communication
· Education and Training

· **Corporate Sustainability Management**
Corporate Governance
Stakeholder Communication
Supply Chain Management

· **Labor, Ethics, Health, and Safety Management**
Management Systems Certifications
Conflict Minerals Management
RBA Code of Conduct Audit Scores

· **Environment, Energy, and Climate Change Management**
GHG Inventory
GHG Reduction
Carbon Disclosure Supply Chain Project Rating Scores
Usage of Green Electricity and Renewable Energy
Status of Science-based Carbon Reduction Targets
Environmental Problems
Energy management

Metrics and Targets

Acer shoulders the mission of being a leading brand and promises to achieve net zero emissions by 2050, increase the share of renewables in energy consumption to 100% by 2035 and set Science Based Targets (SBT) aligned with the 1.5°C carbon reduction pathway. By 2030, Acer aims to reduce carbon emissions by 50% in organizational operations compared to 2019, and reduce the value chain emissions by 35% compared to 2020. In addition, by 2025, the Acer personal computer product average energy consumption will be reduced by 45% compared to 2016 and the computer and displays product will reach to 20-30% post-consumer recycled plastic material content.

| Climate-related Targets and the Performance

Acer Climate-related Indicators and Targets

		2025	2030	2035	2050
Renewable Energy	RE100 °CLIMATE GROUP ⚡CDP	RE60	RE80	RE100	
Carbon Reduction					
Scope 1, 2 carbon emission reduction compared with the base year of 2019			50%		NET ZERO
Scope 3 carbon emission reduction compared with the base year of 2020			35%		
Product					
Reduction in average computer energy consumption		45%			
20-30% of PCR plastics content in computers and displays		20-30%			

Renewables electricity Usage

Acer is committed to achieving 100% renewable electricity usage in global operations in by 2035, and to increase the shares of renewable electricity usage in the Group through self-built solar power generation systems and renewable energy purchasing. In 2022, Acer has installed 108 solar panels with a capacity of 535W in its Spanish base, which generates and consumes about 80,000 kWh of renewable electricity each year, reducing the power consumption of the base by about 20% during work hours. In addition, Acer purchased renewable energy certificates such as International Renewable Energy Certificates (I-RECs) and Guarantee of Origin (GOs) based on its global operations. The group's self-owned power plants sold 3,526,572 kWh of green power back to the local power grid, and 13,334,372 kWh of renewable energy (including REC) were used in operations, accounting for 65% of the ICT product business operations and 44% of the Group's Scope 2 consumption that has sourced more than 40% renewable electricity for eight consecutive years Since 2015.

Acer Taiwanese headquarter has signed a long-term Corporate Power Purchase Agreement (CPPA) with a renewable energy retailer in the first quarter of 2023. It will provide about 10 million kWh of wind power every year, which is expected to greatly increase Acer's share of renewables in energy consumption to achieve the short-term target of 60% renewable electricity usage by 2025.

Greenhouse Gas Emissions

Since 2011, we have conducted annual GHG inventories in accordance with the GHG Protocol and in line with the Group's consolidated financial reporting boundaries. We also commissioned a third-party verification agency certified by Taiwan's Environmental Protection Administration to undertake greenhouse gas emission verification for both direct and indirect categories, i.e., Scope 1, Scope 2, and Scope 3, and acquired the ISO 14064-1: 2018 Greenhouse Gas Verification Statement.

In 2022, the verified carbon emissions from operation (Scope 1, 2) were 11,490 tonnes, a reduction of 16.5% from the base year of 2019, meeting the expected reduction target. Among them, Scope 1 emissions were 2,705 tonnes, a decrease of 23.6% compared with the base year of 2019, resulted by the reduction in the use of natural gas, reduced travel emissions with virtual conferences, and the electrification of gasoline and diesel vehicles and other carbon reduction actions. Scope 2 emissions were 8,784 tonnes (market-based), an increase of 0.4% compared to the previous year and a decrease of 14% compared to the base year of 2019, resulted by the reduction of energy consumption coupled with renewable energy usage. Operational carbon intensity (carbon emissions per unit of revenue) was 41.7, a decrease of 29% from 2019; per capita emissions were 1.49 tonnes, a decrease of about 14% from 2019.

Acer Group Annual Greenhouse Gas Emissions

(Unit: CO_2eTonnes)

- ■ Annual Emissions
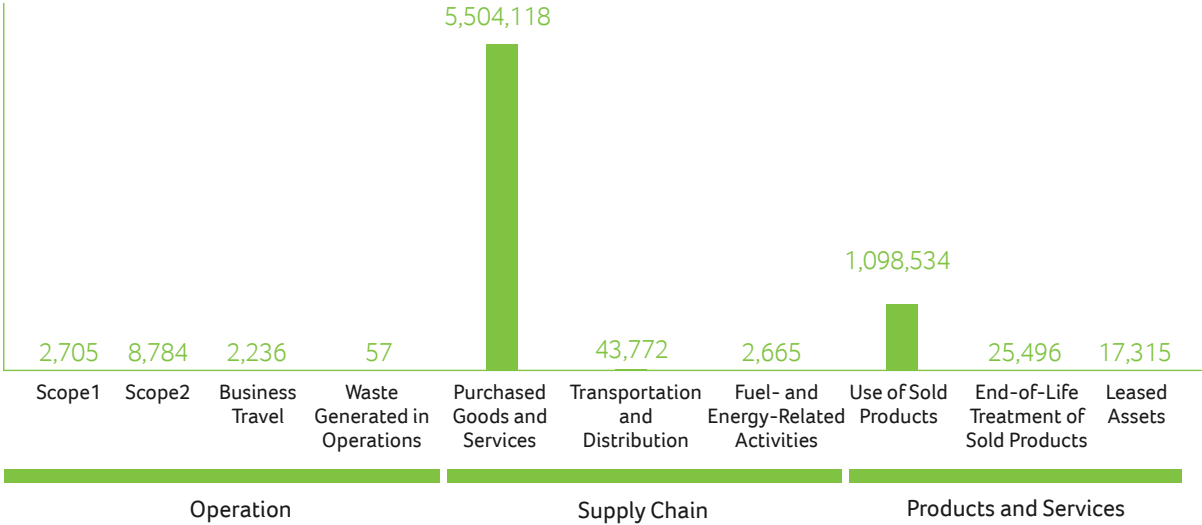- ● CO_2eTonnes/billion NTD
- ● CO_2eTonnes per capita
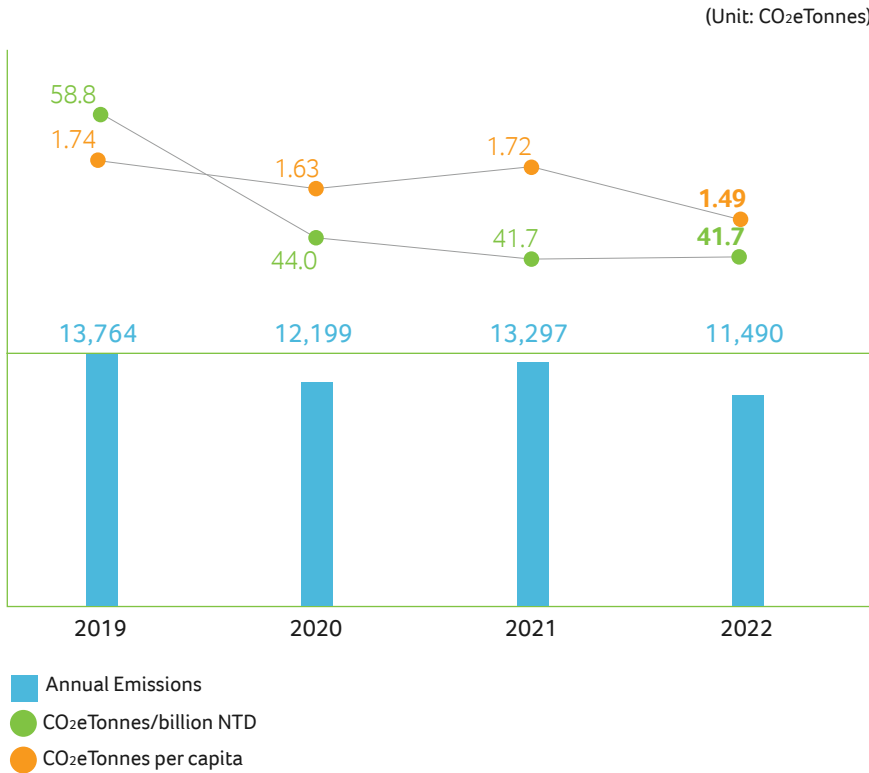
For Scope 3 emissions, we have identified significant indirect sources in accordance with the principles of the GHG Protocol Scope 3 and, based on quantitative significance, impact, data availability, and accuracy, included other significant indirect sources in the scope of the inventory.

In 2022, we reviewed the calculation method of our GHG Scope 3 emissions, and adopted the life cycle assessment (LCA) to calculate the Scope 3 emissions to improve the reliability and accuracy of our data and to ensure they are aligned with our zero carbon goals. Furthermore, we used the LCA method to retrospectively the carbon emissions in 2020 and 2021.

The total verified Scope 3 emissions, and the total Scope 1, 2, and 3 emissions have reached 6,694,195 tonnes and 6,705,684 tonnes respectively, a decrease of 23.7% compared with the previous year, due to the efforts of the use of sustainable materials, the energy consumption of products and a decrease in product shipments. In 2022, the supply chain is the main source of emission, including Scope 3 Category 1 emissions from purchased goods and services, Category 3 emissions from fuel- and energy-related activities, and Category 4 and Category 9 emissions from transportation and distribution, which accounted for 83% of the total emissions. The emissions from products and services accounted for 17% of the total emissions. Among them, Scope 3 Category 11 emission from the use of sold products ranks the highest, followed by product end-of-life treatment.

2022 Acer Carbon Emission

Unit: MT CO2e

	Scope1	Scope2	Business Travel	Waste Generated in Operations	Purchased Goods and Services	Transportation and Distribution	Fuel- and Energy-Related Activities	Use of Sold Products	End-of-Life Treatment of Sold Products	Leased Assets
	2,705	8,784	2,236	57	5,504,118	43,772	2,665	1,098,534	25,496	17,315

Operation   Supply Chain   Products and Services

Low Carbon Product

Product's energy efficiency has always been one of the key indicators in our product design. We use the US ENERGY STAR standard as the basis for product design and will continue to offer more low energy consumption products to consumers. With the introduction of the Modern Standby power management, the typical energy consumption ETEC of notebooks and desktop computers decreases.

Compared to 2016, we have reduced the average energy consumption of our notebook products by 39% and our desktop products by 35%, which also represents a reduction in the carbon footprint of our products during the usage. In the future, the Company will continue to provide more low-energy products and move toward the goal of reducing the average energy consumption of personal computer products by 45% by 2025.

With regard to the use of post-consumer recycled plastics, we determine the types and ratios to be used during product planning and carefully select vendors For products using post-consumer recycled plastics, we ensure that the raw material formulation is as close as possible to the physical properties of the virgin plastic. When necessary, we add strength and reliability design to the product design process to ensure product quality. Users can not only enjoy the same quality of products as virgin plastic, but also support the reuse of resources together with Acer to strengthen the concept of circular economy.

In 2022, 17% of the plastic used in computers and displays was post-consumer recycled plastic, and we extended the application to projectors, computer peripherals and other products. A total of more than 30 million computer and display products use post-consumer recycled plastics from 2020-2022.

2020-2022 Acer Carbon Emission

	2020	2021	2022
Emissions from Operating Activity (Tonnes CO2e)	13,077	14,395	13,783
Emissions from Supply Chain (Tonnes CO2e)	6,550,901	7,108,184	5,550,554
Emissions from Products & Services (Tonnes CO2e)	1,586,765	1,663,821	1,141,345
Annual Total Emissions (Tonnes CO2e)	**8,150,743**	**8,786,400**	**6,705,684**
Scope 3 Emission (Tonnes CO2e)	8,138,544	8,773,103	6,694,195
Emissions compared to the base year of 2020 (%)	-	**+7.8%**	**-17.7%**