

2022

AUO Corporation

Task Force on Climate-Related
Financial Disclosures (TCFD) Report



An aerial photograph of a vast mangrove forest. A winding, light blue river or canal meanders through the dense, vibrant green vegetation. The forest appears as a textured, undulating landscape. In the upper right, the river meets a larger body of water under a clear sky.

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Advancing Toward Net Zero with Low-Carbon Transformation



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In the face of global climate change, AUO has adopted a two-pronged approach consisting of alignment of its corporate development strategy with sustainability principles paired with the development of high-quality products based on biaxial transformation concepts. We strive to forge ahead on the path of “Low-carbon to Net-Zero” and fulfill our civic responsibility to protect the environment. The ultimate goal is to demonstrate our commitment to external audiences and thereby show that we are not just a company of panels.

AUO Climate Change Overview

Contents corresponding to the TCFD framework

We have incorporated climate change issues into our sustainable development goals, while adopting responses based on adaptation and mitigation concepts. In the adaptation dimension, we have implemented PDCA cycle management for climate risk and opportunity scenarios in line with the TCFD framework as a long-term operation mechanism with ongoing improvements.

Core Elements	Description	Disclosure		
 Governance	Disclose the organization's governance around climate related risks and opportunities	Supervisory Process of the Board of Directors <ul style="list-style-type: none"> Regularly reports to the Board of Directors Material topic, project report 	Role and Responsibilities <ul style="list-style-type: none"> ESG & Climate Committee consists of the CSO and level-one executives who report to the Chairman directly Climate change topic project management and progress report Target review and monitor external trends 	
 Strategy	Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning	Risk and Opportunity <ul style="list-style-type: none"> Carbon reduction in the value chain Renewable energy development & market development Link climate actions to the organization's sustainability targets 	Risk and Opportunity Financial impact <ul style="list-style-type: none"> Categorization based on 4M1E Regularly update the financial impact Evaluate case closure according to the magnitude of the financial impact 	Scenario and Analysis <ul style="list-style-type: none"> Transition risks: IPCC 6th SSP1-1.9 Physical risks: SSP5-8.5 drastic temperature increase scenario
 Risk Management	Disclose the processes used by the organization to identify, assess, and manage climate related risks	Identification and Evaluation Process <ul style="list-style-type: none"> Coupled with the company's risk identification operations Form a risk management working group Opportunity topics are reviewed by the ESG & Climate Committee 	Management Process <ul style="list-style-type: none"> Annual project PDCA management Confirm risk scenario and hypothesis Clarify the responsible department based on the scenario Financial impact assessment and management Disclose in annual achievement report 	Annual Risk Management System <ul style="list-style-type: none"> High-risk topics are included in high-level meetings for management
 Indicators & Target	Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities	Evaluation Indicator <ul style="list-style-type: none"> Reduce carbon by 6.5 million metric tonnes, SBTi goal, RE100 goal Increase climate resilience, continue to lower climate-related financial impacts and risks 	Carbon Emissions Management <ul style="list-style-type: none"> GHG inventory is conducted according to ISO14064 Organizational boundaries: Scope 1 and Scope 2 Other indirect emissions (Scope 3) include a total of 9 types of emissions, which have undergone verification 	Target Setting and Review <ul style="list-style-type: none"> Quantitative target management <ol style="list-style-type: none"> Renewable energy, electricity quality Renewable water, stable water resources Carbon reduction Create a value chain with operational resilience

AUO's Climate Action Philosophy

AUO's Climate Actions

We have been monitoring global developments in the field of climate issues over many years. Mitigation and adaptation measures are adapted in a proactive manner in line with UN SDGs. In addition, we formulate management policies for climate change issues in the following four major dimensions: Transparency, Actions, Responsibility, and Cooperation. These policy directions serve as the foundation for the assessment of climate risks and opportunities, reduction cooperation, and carbon asset management.

In response to the rising concern for climate change on the part of external stakeholders, we signed an agreement to support TCFD climate adaptation governance in 2020 and adopted the SBTi (Science-Based Targets Initiative)-approved carbon reduction pathway targets in 2021. Last year, we became an official member of RE100 and made a formal pledge to transition to 100% renewable energy by 2050 to demonstrate our commitment to sustained progress on the path toward net zero.

Against the backdrop of the worldwide trend of low-carbon transition, the AUO Sustainability Commission was upgraded to ESG & Climate Committee and put in charge of designing a strategic roadmap for climate actions. The Board of Directors and ESG & Climate Committee are jointly responsible for governance to confront climate challenges. In addition, low-carbon technology solutions in the fields of green energy, water resources, circular economy, smart manufacturing, and green products are developed by harnessing the capabilities of a highly efficient governance team coupled with the competitive edge derived from our core technologies. In line with the government strategy to assign large corporations a leadership role in industrial development, we assist suppliers in the establishment of information sharing platforms, stipulate carbon reduction targets, and provide guidance to suppliers by tapping into our own experiences with the ultimate goal of realizing low-carbon manufacturing. In the field of corporate culture, we promote sustainability tasks and train talent in our sustainability academy underpinned by the spirit of B2B and E2E. The goal is to cultivate diversified professional talent for the low-carbon transition stage. As for the development of high-tech tools, we established a carbon database to honor our commitment to digital transformation starting in 2012. We persist in our efforts in the fields of intelligent digital development and energy conservation & carbon reduction performance to manifest our climate action intent. In addition to aligning our corporate sustainability development strategies with creating high-quality products and services, we spare no effort in our pursuit of the “Low-carbon to Net-Zero” path and engaged with our value chain partners to protect our natural environment.

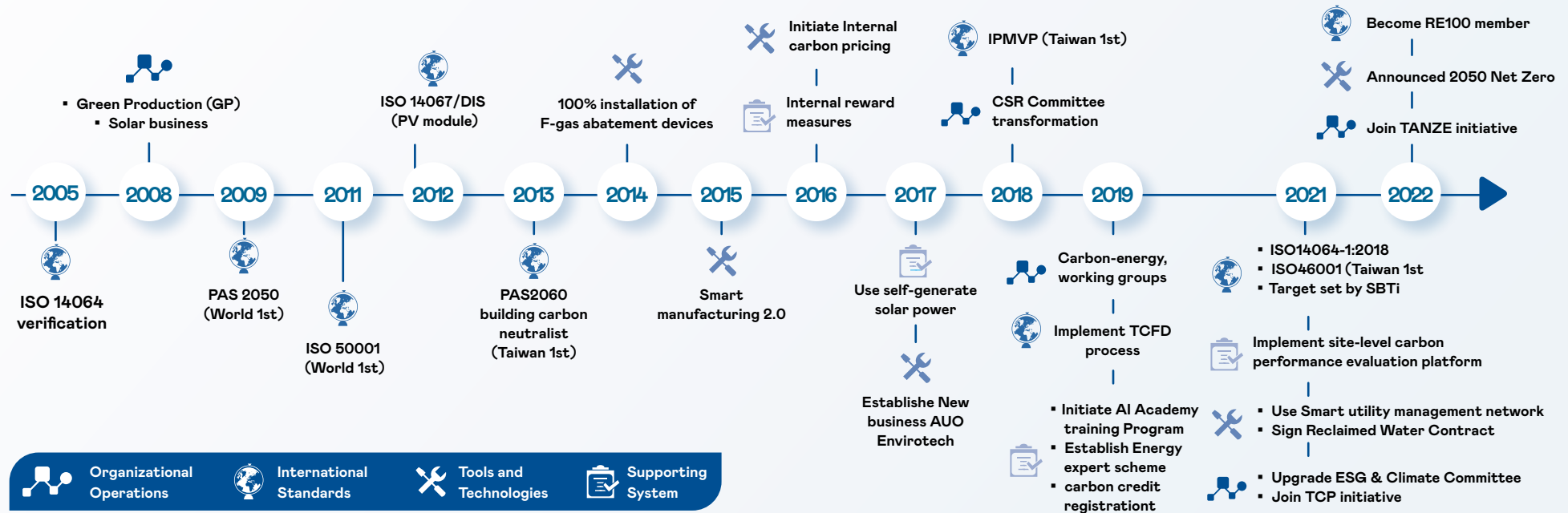


Mitigation milestone

AUO have always stayed at the forefront of international trends and remained committed to low-carbon energy management practices in the hope of creating an overall value chain to fortify our partnerships.

In terms of organizational operations, we proposed the AUO Green Solutions (AGS) in 2008, forming a green production organization to engage in in-depth management of environmental issues. Building upon a decade of experience, we have appointed a CSO and formed a CSR Committee to expand CSR topic with ESG dimensions and formulate the CSR EPS 2025 goals. The following year, we created the carbon energy working group, which adopted a more professional and pragmatic organizational work allocation to manage climate change and carbon energy related issues. In response to the risks and opportunities associated with global zero carbon emissions and energy transition, AUO established the ESG and Climate Committee to formulate strategic climate actions to achieve the goal of net-zero during the key transition stage.

AUO has conformed to international standards for carbon energy management and development, where standardization is applied to endow the management strategies with system and consistency. In relation to operation management, parallel development has been adopted internally to meet the expectations of our stakeholders. In terms of tool technology and large scale manufacturing operations, AUO not only possesses over a decade of experience in the energy business but also cost-effective zero wastewater emissions technology. In regards to manufacturing technology, we are also constantly pursuing advancements by upgrading our digital infrastructure and introducing external professional resources. Furthermore, we have also dispatched 1,000 engineers and executives to receive training at AI schools to foster enhanced performance through digitization. Amid climate change and the digital trend, AUO continues to bolster our soft and hard skills in order to foster our climate resilience.



01. Governance

1.1 Organizational Operations

We place strong emphasis on the governance functions of senior management in the field of sustainability issues. Reports on sustainability achievements covering all material topics of concern to stakeholders are delivered to the Board of Directors on an annual basis. In addition, we include material climate change issues including implemented operational adjustments and long-term carbon reduction goals in our reports.

Monitoring of climate-related risk and opportunities by the Board of Directors

Organization	Relevance
Board of Directors	Supervision of planning and implementation of sustainability issues by AUO operating departments
Corporate Governance Committee	Confirmation of ESG-related professional backgrounds of AUO board members and with diversified development
Remuneration Committee	Linkage of senior managerial officer compensations to economic, environmental, and social performance of the company (Senior management officer ESG performance is reflected in the CSR 2025 sustainability goals)

Climate change governance and management framework

Board of Directors

Our Board of Directors is the highest management and decision-making in the field of risk management organization. It approves risk management policies in accordance with business strategies and the industry environment and ensures effective operations of the management mechanism.

ESG & Climate Committee

The AUO Sustainability Committee was upgraded to ESG & Climate Committee in 2021 to give impetus to the core objective of net-zero in 2050. Design of a strategic climate roadmap and adoption of proactive mitigation and adaptation actions.

Communication

Carbon Energy Task Force

The Carbon-Energy Working Group (WG) is a subsidiary of the ESG and Climate Committee and headed by the vice president of manufacturing, who engages in horizontal, cross-departmental climate adjustment coordination and mitigation operations.

Organizational Functions

1. Emission Reduction Section: Execution of mitigation actions and measures
2. Risk Adaptation Section: Resilience adaptation in the legal/market technology dimension
3. Information Platform Section: Matching of pioneering external reduction technologies and cooperation opportunities

Circular Economy Task Force

Three major strategy dimensions in the field of circular economy in 2020:

- Green manufacturing
- Green cycle
- Green supply chain

Subcommittee

Risk Governance Section (one of the committee sections)

The risk management policy complies with the ISO 31000 risk management guidelines to establish response measures and processes. Its strategic framework encompasses external politics and economy, climate and environmental protection and law compliance, in addition to internal risk management, namely, operations and manufacturing, R&D, information security and finance.

Sustainable Manufacturing Section

Active tackling of opportunities and challenges, creation of a solid foundation for green manufacturing, consolidation of competitiveness in the field of carbon energy management, and increase of low-carbon business opportunities in response to climate change.

Specified project operations: TCFD operations

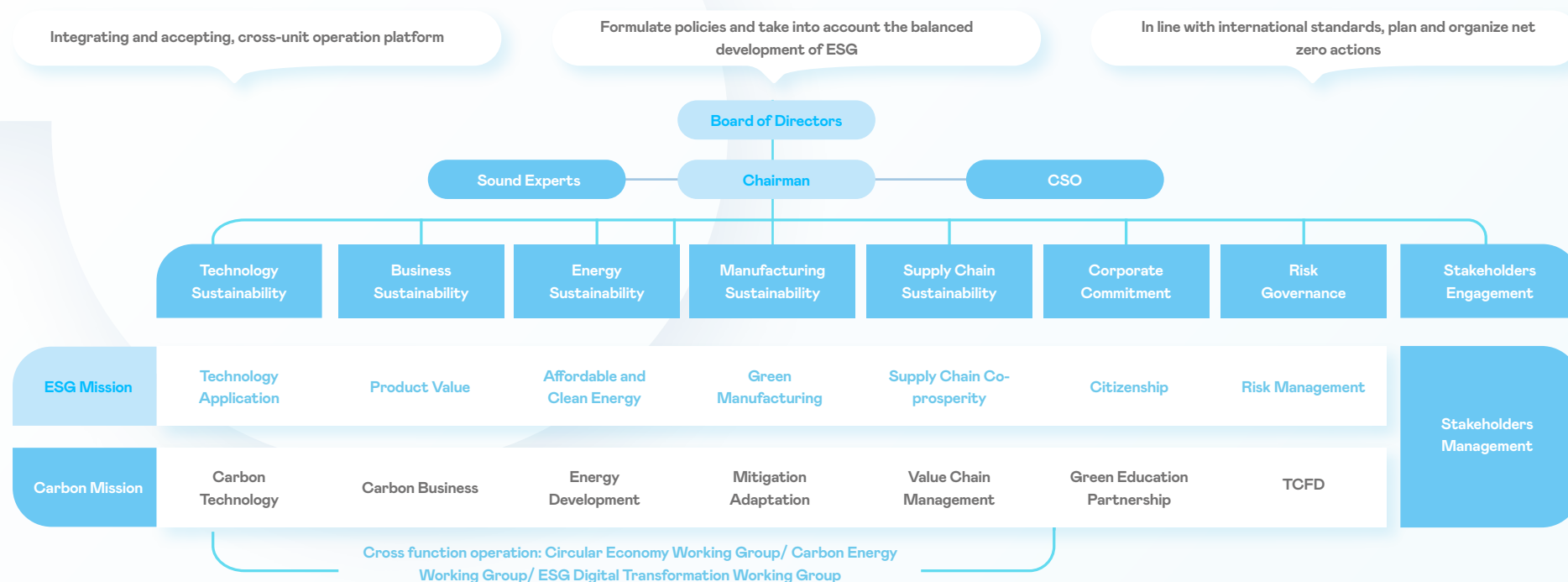
We have integrated the TCFD risk scenario with the company's annual risk identification, where more than 100 executives function heads can jointly review climate topics that are closely related to the company's operations.

1.2 Management Powers and Responsibilities

AUO has unveiled AUO Green Solutions since 2008, taking the lead in the industry to use a systematic strategy to reduce the impact of product life cycle on the environment, and established the CSR Committee at the end of 2013, which is the highest governance body for the Company's sustainable development operations. In 2018, based on the solid foundation built in ten years, the Sustainable Development Department was further established to coordinate the sustainable development policy, and integrate with the United Nations Sustainable Development Goals (SDGs). With the vision of "Go Beyond CSR, Create Shared Values," we set the 2025 CSR EPS Goals, taking the balanced development of ESG into account.

In response to global climate issues and net-zero trends, the CSR Committee transformed and upgraded to the "ESG and Climate Committee" at the end of 2021. With net zero emissions by 2050 as the core objective to build the strategic climate blueprint and plan forward active mitigation and adaptation actions. In addition to fulfilling the 2025 CSR EPS Goals, the ESG and Climate Committee also takes on the carbon tasks of environment, society and corporate governance, and undertakes carbon tasks in the business field, and will take the cross-unit operation platform as the framework in the future to develop low-carbon technologies, promote carbon data applications, expand new businesses niches and deepen sustainable DNA efforts, and continue to cooperate with value chain partners in the spirit of "Gung ho" to create a sustainable ecosystem.

ESG & Climate Committee



▲ Further explanation of the organization continued from the previous page

Organizational Operations

- The Board of Directors monitors operating results. Reports are delivered to the Board of Directors at least annually in accordance with sustainable development principles.
- The Chairman of the Board of Directors and first-level executives serve as the committee and subcommittee chairpersons, respectively. They are responsible for cross-departmental integration of strategy guidelines and resources. The CSO (Chief Sustainability Officer) directs the planning and promotion efforts of the Secretariat.
- Formation of a Circular Economy Task Force and Carbon Energy Task Force and pursuit of life cycle carbon reduction effects and Circular economic contribution through cross-unit operations

Vision

- Realization of 2025 CSR EPS goals corresponding to SDGs
- Monitoring and governance of operational risks, in-depth analysis of business opportunities, and acceleration of twin transformation development
- Engagement in climate adaptation and mitigation actions, building of a low-carbon value chain, and ongoing progress toward the net-zero goal

Implementation method

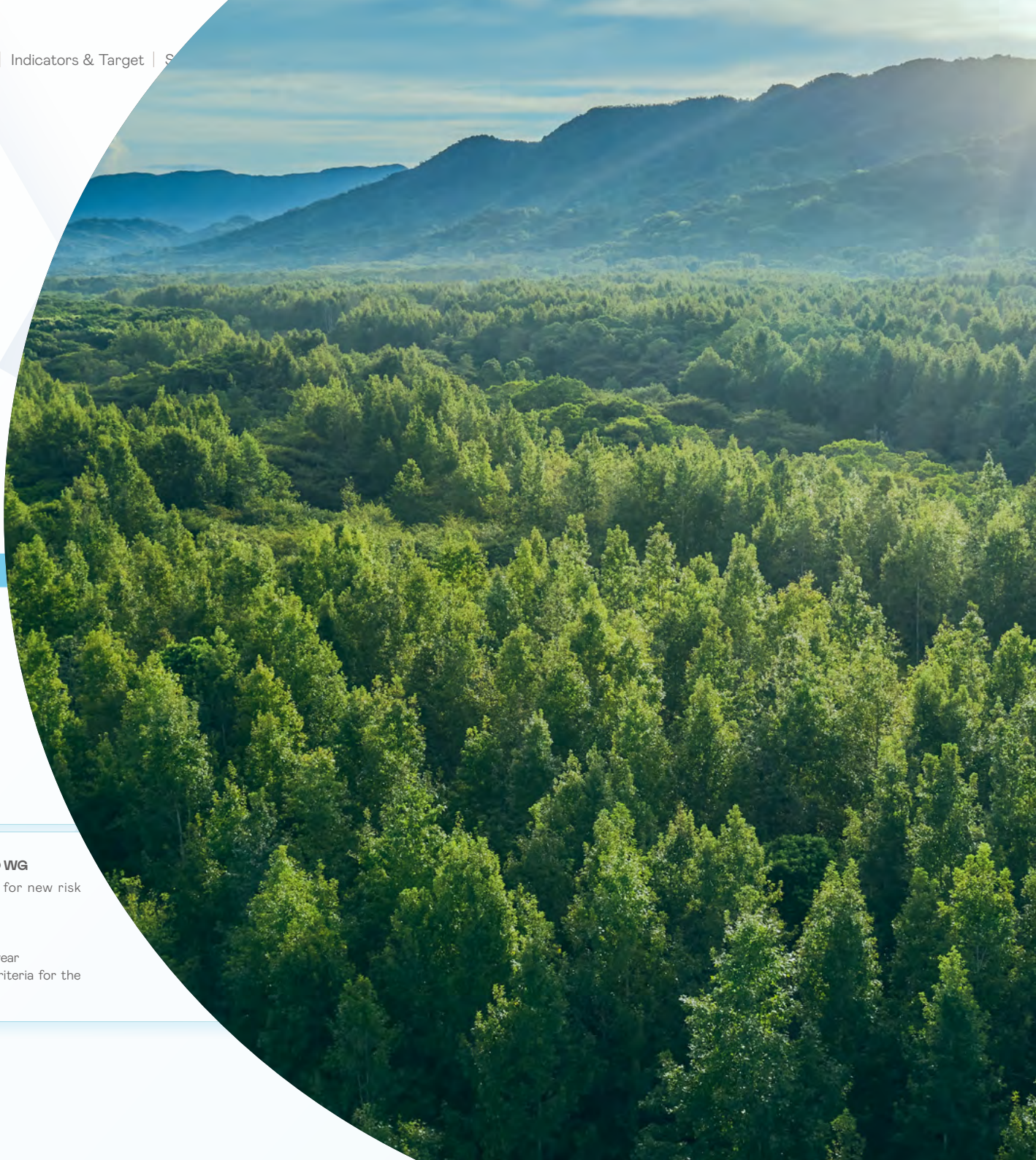
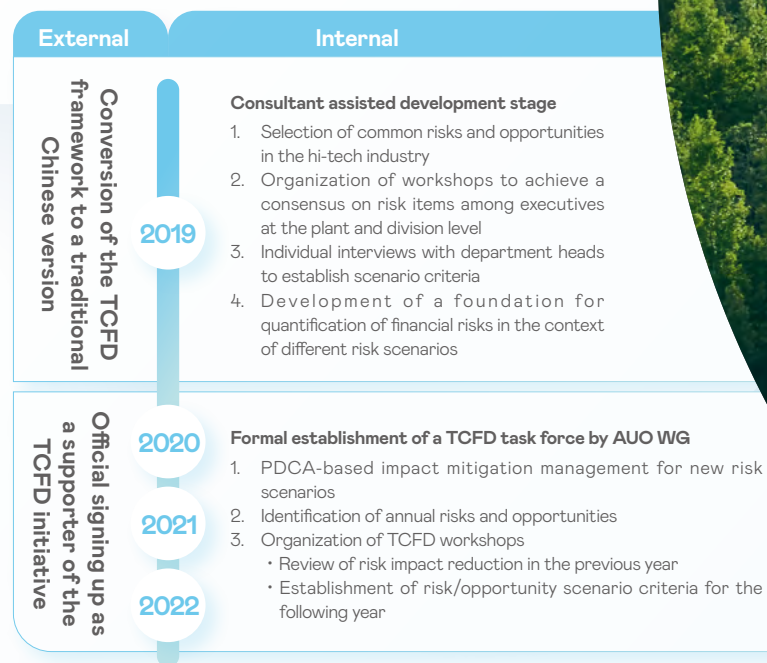
- The ESG & Climate Committee convenes on a quarterly basis to deliberate the company's long-range vision, review goal progress, and promote and implement sustainable development
- The subcommittees engage in monthly communication and discussion of various ESG-related plans and programs, formulation of short- and medium-term goals, and regular tracking of implementation results

With a view to maintaining sustainable operations and ESG strategy formulation and management, we have adopted different operation frequencies and mechanisms.

Organization	Management category	Participants	Frequency
Board of Directors/Strategic Meetings	Approval of important matters/approval management (including progress reports)	Directors	Semiannually
ESG & Climate Committee	Building of a consensus on relevant issues, resource coordination and distribution, and confirmation of synergy effects	Chairperson	Quarterly
Risk Governance Section of ESG Subcommittee	Key risk and issue management in the context of corporate governance <ul style="list-style-type: none"> ▪ Responsible for implementation of risk management policies approved by the Board of Directors ▪ Risk management policies are formulated and relevant procedures are stipulated in accordance with international risk management rules 	Respective secretary	Monthly
Carbon Energy Task Force/Green Manufacturing	<ul style="list-style-type: none"> ▪ Cross-platform concern and resource integration and mitigation of GHG impacts through smart technologies and scientific foundation ▪ Strengthening of organizational adaptation capabilities and minimization of risks and impacts caused by climate change ▪ Adoption of relevant mechanisms and supplementary measures and realization of EPS vision 	Respective functional contacts	Monthly
TCFD Operation platform	Implementation of PDCA cycle management for climate risk and opportunity scenarios in line with the TCFD framework as a long-term operation mechanism with ongoing improvements	Cross-organizational committee members	Monthly
Green Power Procurement Decision-Making Task Force	According to the company's RE100 goal, decision-making and resolution of key conditions for green power purchase team	Chairman assigns senior executives + secretariat	As required
Discussion/Preparatory Meeting	Progress updates, expansion, tracking of anomalies	Executing units	As required

TCFD implementation history

Climate change-related risk management is a matter of long-standing concern to AUO. In 2019, we engaged a professional third-party consulting team to assist us in building the TCFD-based operation management framework. The Carbon-Energy WG formally established a TCFD operation platform responsible for the planning and execution of ongoing improvements in the field of TCFD and advanced PDCA management. In the following year, we realized in the process of executing TCFD-based adaptation projects that the adoption of a TCFD framework is an indispensable prerequisite for the implementation of climate governance inside the organization. We also became fully aware of the fact that climate change-related risks and opportunities are of primary concern to external stakeholders. We therefore officially responded by signing up for the TCFD initiative in 2020.



Organization	Organizational structure				2022 implementation results
	Chairperson	Committee members	Meeting frequency	Work items	
ESG & Climate Committee	Chairman of the Board	Senior executives in all areas of the company's business operations	Quarterly	<ul style="list-style-type: none"> Regular examination of goals and strategies in the course of organizational operations and reporting to the Board of Directors for resolution Linkage to external initiatives and resources and reinforcement of the operation mechanism 	<ul style="list-style-type: none"> Membership in the RE100 initiative and working towards the 2050 net zero goal Concerted effort with supply chain partners in pursuit of a net-zero, sustainable future in a spirit of solidarity for the common good Continued conclusion of renewable energy purchase/sale agreements Expanded adoption of ISO46001 Water Efficiency Standards Continued responses to climate initiatives
Carbon Energy Task Force	Senior Vice President of Manufacturing Group	Representatives of manufacturing, plant affairs, business, procurement, and environmental safety units	Monthly	<ul style="list-style-type: none"> Emission Reduction Section Risk Adaptation Section Information Platform Section 	<ul style="list-style-type: none"> Ongoing development of an SBT-based absolute reduction pathway Total carbon emissions of 2.44 million tons - ongoing absolute reduction amounting to 16% In-depth application of AI technology to achieve a process water recycling rate of 95% Harnessing of AIoT, Digital IoT, and data analysis to solve pain points of aging plants (our efforts were recognized with a Manufacturing Leadership Award (MLA))
Circular Economy Task Force	CTO	Representatives of R&D, manufacturing, procurement, environmental safety, and business units	Monthly	<ul style="list-style-type: none"> Waste reduction at the source, product circularity certification, increased material recycling and reuse rate, reduced generation of process waste Packaging material recycling in cooperation with partners, research and development of material recovery technologies and process material recycling, and creation of more green business opportunities by forging alliances in the value chain 	<ul style="list-style-type: none"> Constant technological breakthroughs and expansion of material recovery penetration rates, use of recycled materials for 33 products (recycled material usage rate in products with special specs exceeds 20%) Establishment of a Zero-Waste Center to ensure ongoing progress toward zero-waste manufacturing Promotion of sustainable, zero-waste manufacturing based on scientific concepts, implementation of green manufacturing and circular use of resources, building of a sustainable ecosphere, annual circular economy benefits amounting to NT\$ 8 billion, consecutive circular economy awards.
Risk Governance Section	CFO	Representatives of environmental safety, information security, financial affairs, and stock affairs units	Monthly	<ul style="list-style-type: none"> Responsible for implementation of risk management policies approved by the Board of Directors Risk management policies are formulated and relevant procedures are stipulated in accordance with international risk management rules 	<ul style="list-style-type: none"> Inclusion of competent overseas executives in the assessment of climate change and carbon management issues in response to the increasing global attention to the climate crisis and net-zero goals Listing of 23 items of concern in 2022 (transition risks still represent the main focus in the field of climate issues) Incorporation of key issues such as impacts on natural disaster insurance premiums, carbon taxes and fees affecting plant areas, and green-washing litigation concerns arising from inadequate disclosures into the management mechanism upon assessment in 2022

02.Climate Strategy

2.1 Adaptation Management

Based on the annual risk report of the World Economic Forum (WEF) over the years and the risk claim analysis of international reinsurance companies. The breadth and depth of the impact of climate change on the organization's operations have reached a time of great urgency. In signing support for TCFD, the Chairman of AUO specifically mentioned in the statement that "Facing climate emergency, the greatest challenge of sustainable development, AUO is proud to support climate-related financial disclosures and transparency, and strengthen stakeholder trust for the Company's sustainable development. That is why we would like to play a part in the low carbon economy, respond to the opportunities and the challenges of the energy transition by developing a solar energy business, and applying our core technologies to improve the resilience of the human lifestyle and value chain creation."

Therefore, the Company specifically integrates the climate adaptation topics into the Company's sustainable development goals and establishes a management basis for climate risk opportunities and a PDCA cycle, to become an important issue for long-term and continuous advancement. AUO has long been monitoring climate change-related issues, and the Company participates in the translation committee of the Traditional Chinese version of the climate finance-related disclosure proposal initiated by Ernst & Young. Please refer to the article's appendix.

1. Climate Risk Adaptation Guidelines

In the face of the rising severity of physical climate risks, the Sixth Assessment Report (AR6) released

by IPCC (United Nations Intergovernmental Panel on Climate Change) identifies the following climate risk characteristics affecting Taiwan: Rising precipitation intensity, increase of the maximum number of consecutive dry days, lengthening summers, and shortening (or disappearing) winters. It is of vital importance to ensure that every link within the highly complex boundaries of organizational operations is characterized by solid operational resilience in the face of climate change. Decreased reliance on natural energy resources represents one of the key prerequisites of such resilience of the manufacturing system.




Against the backdrop of the rising intensity of low-carbon transition pressures worldwide, corporate operations face wide-reaching impacts in the following fields: national/regional laws and regulations, market value and R&D capabilities driven by value chain products, and stakeholder expectations. Organizations must proactively tackle such challenges stemming from physical disasters caused by climate change and transition impacts associated with human efforts to control rising temperatures in their adaptation process.

We conduct in-depth assessments of the necessity to inject profound management capabilities in the strategic and operational dimensions of different business areas in the short-, medium-, and long-range

based on our industry characteristics and operating conditions. We further engage in advance planning and preparations in the financial support dimension.



Organizational impact dimensions of climate-related risks/opportunities

Climate-related impact dimensions	Risks	Opportunities
 Business	<ul style="list-style-type: none"> Short term <ul style="list-style-type: none"> Climate risks of increasing severity reinforce uncertainties surrounding operational interruptions of organizations and supply chains Medium term <ul style="list-style-type: none"> Accumulated impact of transition risks stemming from legal developments, product standards, and carbon finance on organizational operations Long term <ul style="list-style-type: none"> Deep-rooted, wide-ranging low-carbon transition driving force requiring adequate product/service adjustments Required active deployment of powerful infrastructure installations for organizational operations to gain the ability to respond to climate anomalies 	<ul style="list-style-type: none"> Short term <ul style="list-style-type: none"> Provision of environmental solutions (e.g., water resources/energy/smart manufacturing) to meet legal requirements or satisfy the needs of enterprises facing climate challenges Medium and long-term <ul style="list-style-type: none"> Medium- and long-term development of green power business opportunities for energy business in accordance with demands of the free electricity market Provision of low-carbon, low-power consuming products to brand customers based on display technologies Provision of more efficient manufacturing services in form of smart manufacturing solutions
 Strategy	<ul style="list-style-type: none"> Short term <ul style="list-style-type: none"> Proactive response to operational resilience required for net-zero transition (SSP1-1.9)/extreme warming (RCP8.5) scenarios including: <ul style="list-style-type: none"> –Setting of proactive low-carbon transition targets in the context of signing up for international initiatives (SBT, RE100) –Adoption of management systems for energy performance enhancement (ISO 50001, ISO 46001) Medium term <ul style="list-style-type: none"> Concern and measures adopted for corresponding carbon reduction targets (renewable energy in particular) Decreased reliance on external water, electricity, and natural gas infrastructure facilities Development of low-carbon, stable, and economically feasible infrastructure support solutions by relying on technological capabilities Long term <ul style="list-style-type: none"> Operational risks acting as a driving force for low-carbon transition-related business opportunities relying on transition/physical solutions 	<ul style="list-style-type: none"> Short term <ul style="list-style-type: none"> Communication and engagement with brand customers on the low-carbon transition process and initiation of trial runs for low-carbon products with special specifications Integration of practical experience in management system operations gained over many years and communication, advocacy, and guidance for ecosphere partners Medium and long-term <ul style="list-style-type: none"> Firm grasp of opportunities arising from core net-zero strategies of government ministries and intensified deployment and implementation of solutions in the fields of green energy, zero-carbon manufacturing, and low-carbon products Forging of strategic partnerships with businesses (including customers and the supply chain) which also face transition risks generating relevant demands
 Finance	<ul style="list-style-type: none"> Short term <ul style="list-style-type: none"> Active response to financial needs arising from climate risks through internal carbon pricing management Internalization of external costs such as investments required for climate change-related business operations and strategic planning risks Reliance on internal financial indicators to prompt competent units to incorporate low-carbon transition targets into their operational decision-making Medium and long-term <ul style="list-style-type: none"> Consideration of replacement of aging, energy intensive facilities and assessment of green energy premiums (period of more than 20 years) associated with renewable energy purchase/sale agreements for carbon reduction target management and investments Assessment of operating cost impacts arising from domestic carbon pricing and the international Carbon Border Adjustment Mechanism (CBAM) 	<ul style="list-style-type: none"> Short term <ul style="list-style-type: none"> Assessment of investments in technologies, tools, and platform services required by industries in the course of low-carbon transition deployment Medium and long-term <ul style="list-style-type: none"> Ongoing contribution of stable, high-value revenues and profits through green power sales opportunities, low-carbon display technologies, and smart-service solutions in the low-carbon transition process

▪ Risk strategies based on the strategy and operation dimensions of the TCFD framework

	Risk categories	Top concerns	Contingency strategies
Strategy dimension	Climate change/ carbon management	<ol style="list-style-type: none"> 1. Stable power supply and production yield during energy transition 2. Impact of long-term water supply imbalances caused by climate change on regular production operations of factories 3. Impact of extreme disasters caused by severe climate change on the shipping order of global supply chains 4. Energy price fluctuations and carbon emission controls implemented on the national level 5. Carbon reduction/renewable energy demands of customers and response to international initiatives 	<ul style="list-style-type: none"> • Strengthening of response capabilities and ongoing implementation of energy conservation programs • Regular monitoring of climate change and water supply conditions by dedicated units, planning of water conservation and diversified water supply sources, search for insurance mechanisms, and adequate risk transfer • Proactive collection of data on natural disaster incidents and firm grasp of the impact of supply chain disruptions through systematic classification and management • Examination of climate change-related financial impacts and formulation of mitigation strategies and measures through TCFD-based case studies • Participation in international initiatives and climate-oriented engagement with customers
	Market and product competition	<ol style="list-style-type: none"> 1. Market redistribution (new competitors harness their competitive edge based on low-carbon production capacities and existing competitors exit the market) 2. Diversified business models, strategies, and sales channels and reduced customer reliance pose a significant challenge to business continuity 3. Varying demands for product mixes and grasp of systemic market risks 	<ul style="list-style-type: none"> • Development of high-end products and increased added value through integrated product solutions • Joint development of next-generation technologies in close cooperation with customers to maintain a leading edge • Close monitoring of market supply and demand conditions, dynamic adjustment of optimal shipping volumes paired with differentiated product development
	Research and development of innovative technologies	<ol style="list-style-type: none"> 1. Lack of innovative concepts or inability to meet business needs through product development resulting in delayed investment in new technologies or missed opportunities for product launch 2. Lagging development by technology partners resulting in lack of synchronization in the fields of new technology/new-generation material adoption and application/R&D capabilities 3. Potential impact of new display technologies available on the market on the company's competitiveness 	<ul style="list-style-type: none"> • Regular inspection and optimization of new technology and product development mechanisms • Upgrade and expansion of R&D capabilities based on existing technologies • Refinement of R&D training blueprints through industry-academia collaboration and deep commitment to optimization of supplier relations • Adoption of systematic, AIO (all-in-one) development approaches to minimize the impact of new display technologies
Operation dimension	Legal compliance	<ol style="list-style-type: none"> 1. Full grasping, understanding, and implementing relevant legal requirements to prevent unexpected violations (e.g., competition laws, privacy and security laws, IPR laws, trademarks, business secrets, environmental protection/health and safety, labor-employer relations, and financial accounting) 2. New transaction or business conduct modes requiring consideration of local laws and regulations on a global scale to minimize investment and financial operation risks 	<ul style="list-style-type: none"> • Regular collection and analysis of data pertaining to new legal trends and developments in relevant fields, impact assessment, and proposal of contingency plans • Enhancement of staff literacy through exchanges, information sharing, and training
	Business continuity	<ol style="list-style-type: none"> 1. Production delays caused by personnel, material, machinery/equipment shortages affecting shipping timeliness 2. Material supply anomalies caused by natural disasters or accidents (factory explosions, equipment damage) 3. Defective product handling to conserve operating resources and reduce operating expenses 	<ul style="list-style-type: none"> • Advance confirmation of required contingency plans, inter-plant support and resource allocation, and flexible outsourcing mechanism • Reinforced mechanism for the handling of risks associated with material supply disruptions affecting production lines (BCP) including alternative supply sources and off-site production • Optimization of product quality controls and return/exchange mechanisms

2.Scenario resilience analysis

The transitional and physical risk scenarios adopted by us for the adaptation process are based on the most severe scenarios and assumptions.

▪ Physical risk scenario:

The adopted scenario is the extreme warming pathway RCP8.5. Based on statistically downscaled data of the 25 CMIP6 models of TCCIP, the qualitative and quantitative climate-related scenario for 2050 has been defined as follows:



Average annual temperature; extreme heat caused by a temperature rise of **1.8°C**; lengthening of high-temperature periods by **8.5** days



Rise of short-term precipitation intensity by **20%** and increase of the number of consecutive dry days by **5.5%**



Gradual lengthening of daylight periods in summer and **shortening** (or disappearing) winters



Incidence of severe typhoons increased by up to **100%**

Physical risk considerations:

1. Precipitation model: Taiwanese water supply facilities tend to be overwhelmed by increasingly obvious patterns of alternating drought and flooding and their rising intensity, which aggravates the water supply crisis in Taiwan.
2. Climate warming: Dry periods of seven or more consecutive days trigger a vicious cycle of heat accumulation and heat island effects in urban areas. The urban power supply pressure aggravates the power quality crisis.

▪ Transition risk scenario:

Taiwan officially announced its Pathway to Net-Zero Emissions in 2050 and promulgated the Climate Change Response Act to reaffirm its commitment to achieving net-zero emissions by 2050. We have manufacturing sites in Taiwan and overseas areas. The aforementioned National Pathway to Net-Zero Emissions, international climate-related norms and regulations, and the 2050 net-zero commitment of stakeholders serve as the main reference, therefore we take the IEA B2DS scenario as an assessment of transition scenarios.

Under this scenario, we could face the following impacts:



Financial impact of carbon-related fees: Carbon pricing has been incorporated into the Climate Change Response Act. Collected fees are earmarked for specific purposes and carbon trading has been initiated in sync with international markets. In addition, we are required to conduct ongoing monitoring of the future impact of the EU CBAM mechanism and integrated analysis of rising operating costs caused by carbon emission fees coupled with assessment of declining product competitiveness.



Extension of carbon reduction goals requested by stakeholders to our value chain.



Requests by customers to disclose carbon emission information for product life cycles could result in product competitiveness risks. However, such requests could also give rise to low-carbon business opportunities.



Long-term goal formulation must be in sync with international trends (e.g., public commitment to the pathway to net-zero emissions in 2050).



The commitment to the net-zero goal and legal compliance is expected to result in a substantial demand for renewable energy coupled with rising operating costs and a risk of green power shortages.








Clearly defined demands for renewable energy can also bring about opportunities for business expansion in the field of power plant projects.



Business opportunities will also be triggered by the enhancement of power grid infrastructure that will generate a demand for energy generation and storage solutions provided by energy business units.

3. Quantification of financial impacts

Impact scope	Impact definition	Item	Description of tangible impacts and quantitative indicators
 Manpower	Absence and disability	<ul style="list-style-type: none"> ▪ Increase of DL manpower ▪ Impact on regular attendance ▪ Employee casualties (injury) ▪ Employee casualties (death) 	<ul style="list-style-type: none"> ▪ Tangible impacts: Employee absence, work deficiencies, and employee disabilities caused by climate incidents resulting in rising operating costs or production capacity losses ▪ Quantitative indicators: Attendance rate, operating costs (manpower loss), production capacity loss
 Machinery	Devaluation of equipment and system assets	<ul style="list-style-type: none"> ▪ Diminished availability due to equipment damage ▪ Equipment damage and scrapping ▪ Generation of stranded assets 	<ul style="list-style-type: none"> ▪ Tangible impacts: Production equipment/asset damage or scrapping caused by accidents or diminished availability resulting in rising operating costs, decreased asset value, or production capacity losses ▪ Quantitative indicators: Asset, production capacity, and revenue losses, operating costs (equipment maintenance costs, equipment upgrades and replacement)
 Materials	Raw material quality/rising shipping costs, semi-finished good losses, and water, electricity, and natural gas prices	<ul style="list-style-type: none"> ▪ Climate-related losses in the fields of raw material quality and delivery times ▪ Rising energy prices trigger raw material price fluctuations ▪ Finished goods losses during transportation caused by climate-related factors ▪ Production losses caused by water and electricity supply disruptions brought about by climate issues ▪ Product scrapping losses caused by water and electricity supply disruptions brought about by climate issues ▪ Losses caused by slow-moving products which have lost their value due to the impact of low-carbon transition technologies ▪ Loss of customer orders due to lack of low-carbon production technologies ▪ Rising energy (water, electricity, natural gas) supply prices ▪ Costs associated with the use of renewable energy ▪ Rising energy (water, electricity, natural gas) supply prices 	<ul style="list-style-type: none"> ▪ Tangible impacts: <ul style="list-style-type: none"> –Climate-related factors resulting in rising operating costs caused by material quality losses, delivery delays, or indirect price hikes –Semi-finished good losses: Production losses generated by water or electricity supply anomalies –Rising energy supply prices (water, electricity): Climate-related factors cause supply-demand imbalances in the field of energy resources, triggering tariff hikes ▪ Quantitative indicators: Production capacity and revenue losses, operating costs (raw material, production, energy, and shipping costs)
 Law	Legal compliance costs	<ul style="list-style-type: none"> ▪ Legal compliance costs ▪ Fines ▪ Liquidation damages 	<ul style="list-style-type: none"> ▪ Tangible impacts: New laws and regulations related to climate issues and rising operating costs caused by non-compliance (e.g., fines, liquidated damages) ▪ Quantitative indicators: Operating costs (fines, liquidated damages)
 Environment	Devaluation resulting from market mechanisms and industry competitiveness and production capacity losses caused by business interruptions	<ul style="list-style-type: none"> ▪ The aforementioned factors cause operating losses resulting from production capacity disruptions and decreasing product sales prices 	<ul style="list-style-type: none"> ▪ Tangible impacts: <ul style="list-style-type: none"> –Declining industry/product/capacity competitiveness due to revenue and profit losses –Production capacity losses caused by production interruptions triggered by physical risk factors present in plant operations and the supply chain –Inventory losses caused by slow-moving products as a result of market mechanism changes ▪ Quantitative indicators: Operating costs (inventory losses), revenue losses, and production capacity losses

Climate risks

Annual TCFD-based risk projects are shown below (generated project-based risk scenarios derived from annual risk identification and analysis results based on the TCFD framework). Details pertaining to climate risk identification, assessment, and management procedures have been incorporated into our annual risk management operations (please refer to the chapter on risk management in this report).

2019-2022 Status of Scenario Setting

Dimension		Issue	Issue-based scenario	2019	2020	2021	2022
Transition	Legal	Increase of GHG emission pricing	<ul style="list-style-type: none"> Projected impact of cap implementation in 2025 Response to carbon tax implementation in Singapore 	●			
		Faced litigation risks (legal compliance)	<ul style="list-style-type: none"> Impact of the provision requiring major electricity users to install renewable energy power generation and storage facilities amounting to 10% as set forth in the Renewable Energy Development Act 	●			
		Rising concern and increasing negative feedback by external audiences	<ul style="list-style-type: none"> Impacts of and responses to laws governing solar panel recycling 		●		
		Increase of GHG emission pricing	<ul style="list-style-type: none"> Impact of carbon tax/carbon fee mechanism adjustments 				●
		Strengthened emission reporting obligations	<ul style="list-style-type: none"> Impact of CBAM tariffs imposed by importing countries on export sales of ICT industry products 				●
	Market	Low-carbon products	<ul style="list-style-type: none"> Impact of R&D expenditures associated with changing customer and market demands Carbon reduction demands of brand customers (carbon footprint reduction) 	●	●		
		Rising raw material costs	<ul style="list-style-type: none"> Supply chain impacts of rising raw material prices caused by global restrictions on the fossil fuel industry) Operational risks faced by Chinese contractors and suppliers due to local carbon controls 			●	
		Changing customer behavior	<ul style="list-style-type: none"> Changing market demands and household appliance specifications triggered by the latest trends in the fields of green building concepts and low-carbon lifestyles 			●	
		Typhoons/flooding and other extreme weather events	<ul style="list-style-type: none"> Natural disaster risks and market insurance conditions 				●
	Technology	Research and development of low-emission technologies and transition processes	<ul style="list-style-type: none"> EU circular economy-based requirements with regard to right to repair and recycled materials of consumer electronics products and adopted contingency measures 		●		
		Rising raw material costs	<ul style="list-style-type: none"> Assessment of impacts of external technology development and transportation electrification 			●	
		Insufficient resilience of infrastructure installations	<ul style="list-style-type: none"> Power grid fragility caused by electricity bottlenecks and increasing renewable energy ratios in Taiwan 				●
Physical	Reputation	Rising concern and increasing negative feedback by external audiences	<ul style="list-style-type: none"> Multidimensional impact of climate issues on talent Impact of ESG investment trends and Sustainable Finance Disclosure Regulation (SFDR) 			●	
		Litigation risks	<ul style="list-style-type: none"> Green-washing dispute/litigation concerns arising from inadequate disclosures 			●	●
		Typhoons/flooding and other extreme weather events	<ul style="list-style-type: none"> Financial losses and rising insurance premiums caused by natural disaster risks Transportation network disruptions and plant losses caused by climate-related factors (flooding) 		●		
	Acute	Precipitation patterns/rising temperatures caused by climate system changes	<ul style="list-style-type: none"> Impact of abnormal peak power consumption during summer months on production 	●			

2.2 Mitigation Management

AUO actively respond to external advocacy initiatives and set Science Based Targets (SBT) to reduce total carbon emissions year by year. We follow the world trend and promise to achieve RE30 in 2030 and RE100 in 2050, gradually working towards net-zero. By formulating a strategic climate blueprint and considering the entire life cycle when developing a recycling production model, we improve energy efficiency while mitigating greenhouse gas emissions. At the same time, we are also continuously working with our value-chain partners to strengthen operations' resilience, finding new business opportunities while moving towards sustainability.

▪ Achievement of carbon reduction goals

AUO proposed a more aggressive carbon reduction target for 2025 in 2018. It responds to SDG 13 climate action, stipulating direct and indirect emissions reduction targets. These include 4 major dimensions that will continue to reduce carbon emissions by 6.5 million tons.



Scope 1+2

- Based on the SBT WB2C Scenario to set absolute reduction target

- Cumulative carbon savings of 1.69 million tons compared to the base year (759,000 tons in 2022)



Scope 3

- 20% carbon reduction target by 2030
- Collect and monitor carbon reduction information through the SCM CSR Portal regularly
- Cumulative carbon savings of 111,000 tons compared to the base year (54,000 tons in 2022)



Scope 3

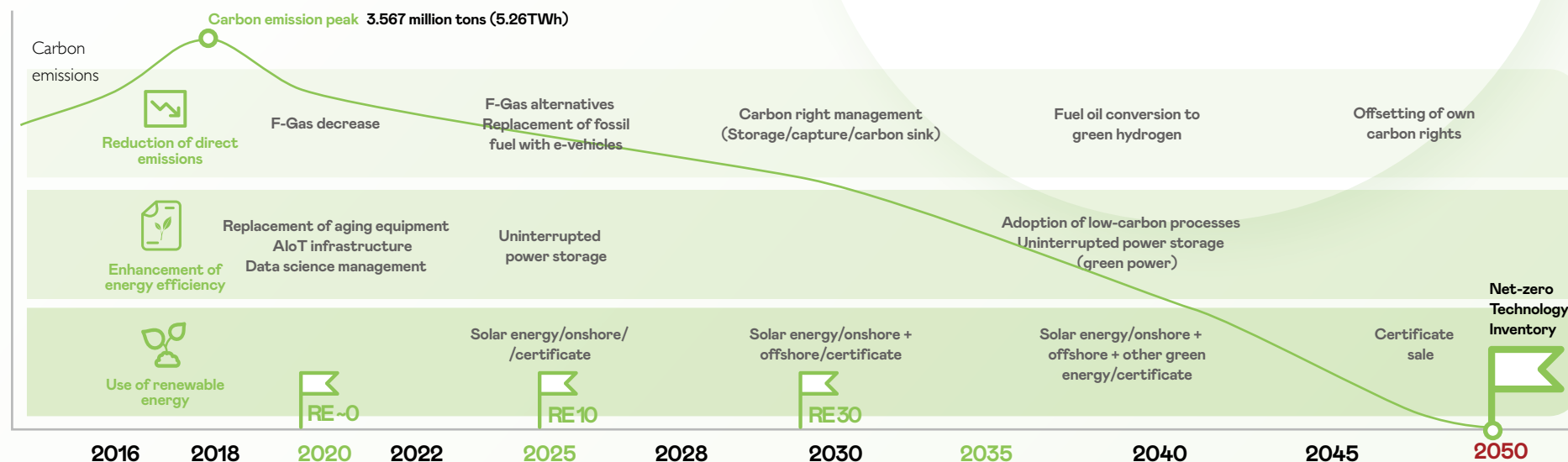
- 100% shipped products
- Assessment of carbon emissions throughout the life cycle based on PCR
- Cumulative carbon savings of 4.69 million tons compared to the base year (1.874 million tons in 2022)



Scope 3

- Decrease the use
- Increase the recycling rate
- Enhanced manufacturing performance through a smart material network
- Cumulative carbon savings of 340,000 tons compared to the base year of 2017 (58,000 tons in 2022)

Net-zero Technology Inventory



Organizational carbon reduction

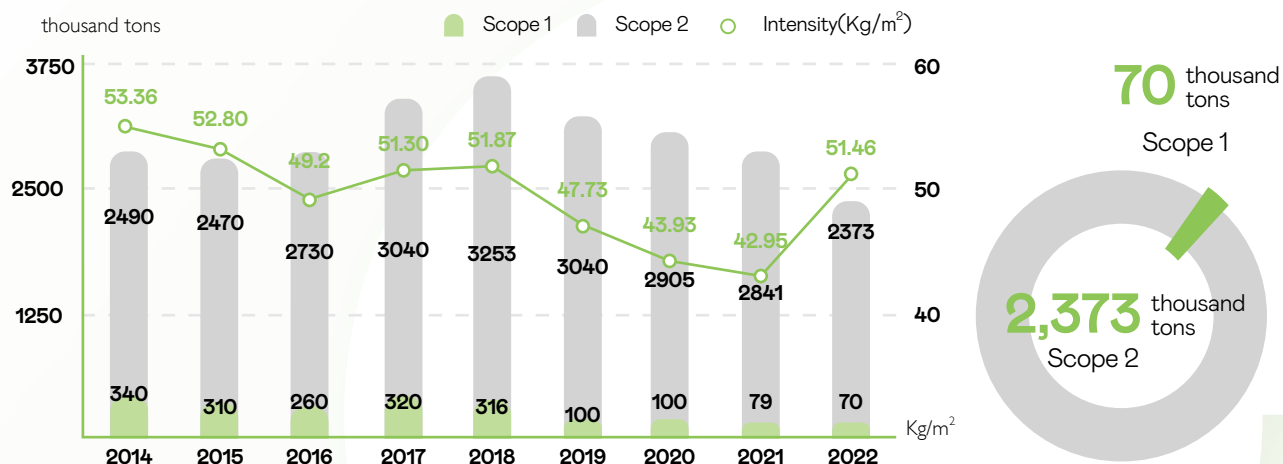
We have achieved a continuous reduction of organizational carbon emissions through the formulation of SBT-based absolute reduction goals.

Organizational Scope 1 emissions, in particular, have been decreased to around 2.8% and have been constantly maintained at a level below 3%. On the foundation of the Re100-based carbon reduction pathway, we are determined to develop more diversified climate action strategies corresponding to the SBT-based absolute reduction pathway or the net-zero goal.

Energy management

The latest IEA (International Energy Agency) report points out that enhanced energy efficiency is the core foundation of the net-zero pathway. Energy performance improvements in the manufacturing sector which is characterized by high EUI (energy use intensity) therefore represent a pressing task. AUO became a trendsetter in the industry by acquiring the first ISO 50001 Energy Management System Certificate in the global large-scale manufacturing sector prior to 2011. We rely on our systematic electronic information platform (EnMS) for the management of average 500 energy conservation proposals submitted each year and thousands of energy-consuming facilities at the company's disposal. This platform has been paired with the International Performance Measurement & Verification Protocol (IPMVP) to achieve optimal power conservation performance. On the basis of the measurement & verification criteria, we have autonomously developed an energy monitoring module with commercial potential. The goal is to facilitate the search for power saving opportunities in the context of a manufacturing sector characterized by meticulous and complex production criteria and create business opportunities in the field of Ai-based green energy.

AUO Carbon Emission Status

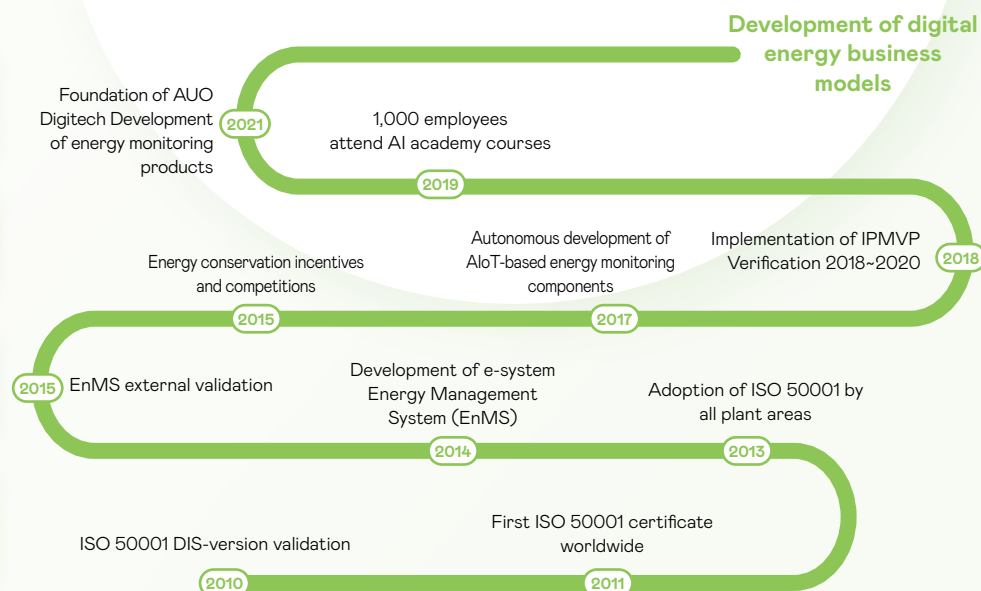


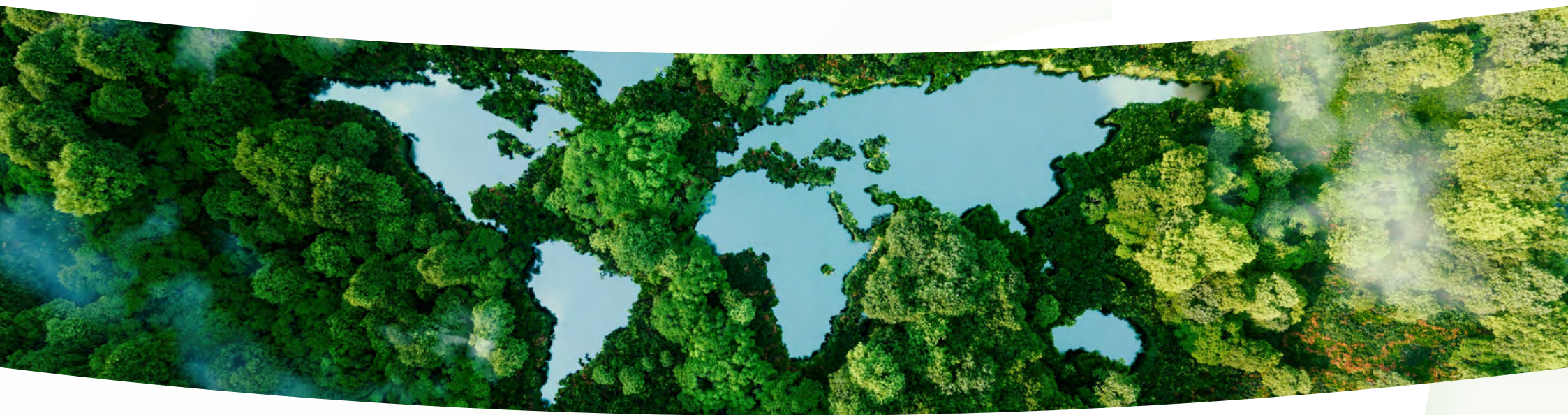
Smart management
AI green energy commerce

Standard verification
Pursuit of performance and pragmatism

System analysis
Data systematization

Standard validation
Leadership in benchmarking

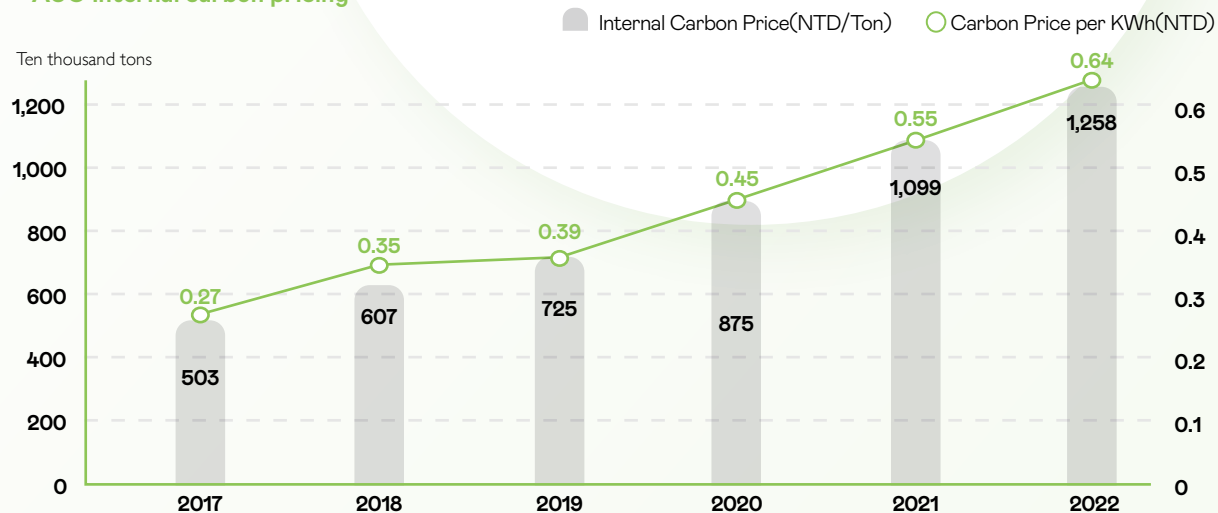




Internal carbon pricing

AUO began to implement the carbon pricing mechanism when the Paris Agreement came into effect in 2016 and the annual carbon prices announced are used as a reference for internalizing the Company's external costs. In 2022, besides referring to the abovementioned pricing mechanism, carbon pricing stipulated by the draft of Taiwan's Greenhouse Gas Reduction and Management Act was also incorporated to announce the internal carbon price at NTD 1,258 per tons (an increase of 14% compared to last year), equivalent to a saving of NTD 0.64 per kWh. Carbon pricing can also be applied to the carbon emission costs of our colleagues' business travel, allowing them to recognize the external costs of their activities and that of the Company. Additionally, the carbon price trend over the recent years is also provided to let the public appreciate the Company's carbon management expectations and intensifying control standards.

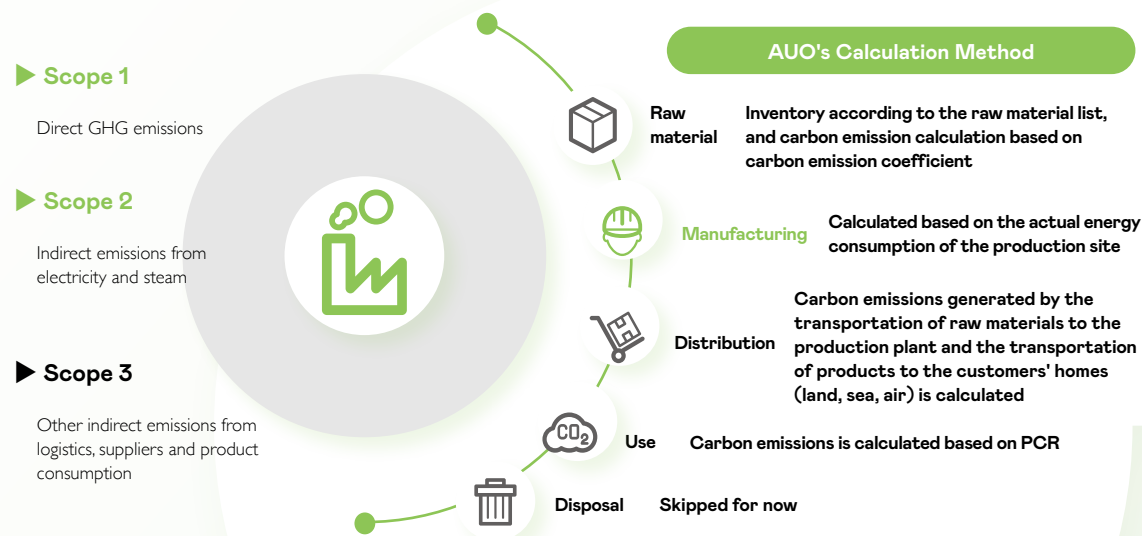
AUO Internal carbon pricing



■ Product carbon reduction

Corporate transition risks - Customers request a reduction of Carbon Footprint in line with the latest trends

The technology blueprint which is continually developed and revised by our panel R&D is based on the core concepts of reduced energy consumption of panels and sustained and significant carbon reduction effects in the product use stage. The ultimate goal is to propel the carbon reduction momentum at the national, industry, and enterprise level on the foundation of the Carbon Border Adjustment Mechanism (CBAM). Furthermore, we have adopted a scenario based on the assumption of gradually increasing customer concern for product carbon neutrality and carbon emissions generated by the value chain affecting different product lines. Product energy performance improvements have been incorporated as a core risk item requiring long-term monitoring and ongoing corrective action. We further strive to reduce future market risks and be ready for business opportunities in the field of low-carbon products by embracing the concept of ongoing advances and improvements.



■ Supply chain carbon reduction

Similarly, climate change also has a deep impact on supply chain partners with high-intensity manufacturing operations. We therefore propose energy conservation, carbon reduction, and water conservation measures and make a determined effort to assist suppliers in implementing ongoing advances in the field of energy/water use efficiency. This year, we went one step further by setting the concrete goal of 20% carbon reductions to be achieved by suppliers by 2030.

Supply chain carbon reduction achievements

Power savings and carbon reduction

Decrease of product energy consumption: Enhancement of energy efficiency
 Goal in 2022: 32,000 tons Result in 2022: 54,004 tons

Power saving technology exchanges

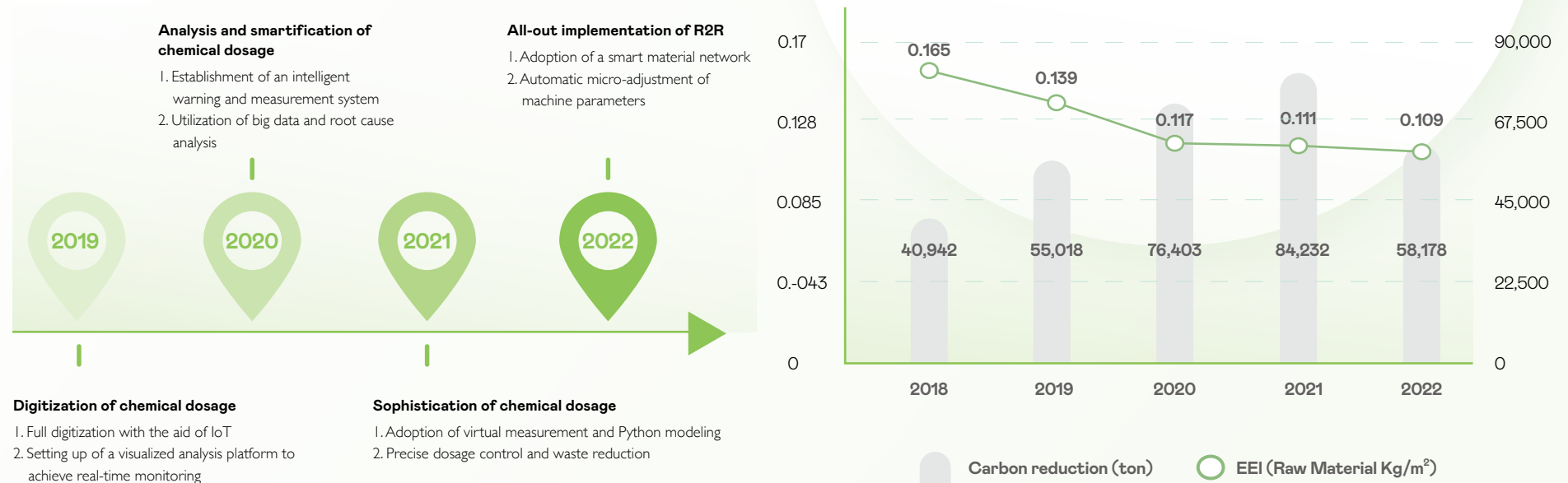
Real-time data management platform:
 Technology exchanges, observations, guidance
 Number of surveyed business in 2022: 57 Number of exchanges in 2022: 3





▪ Raw material carbon reduction

The circular economy model for raw materials is the cornerstone for continued competitiveness in the manufacturing sector. In addition to environmental benefits, enterprises also gain the ability to develop business opportunities with considerable scope. In the past, conservation management in the field of chemical production no longer satisfied eco-friendly requirements. We employ continuous recycling and reuse as the most effective tool for the generation of eco-friendly benefits and enhancement of production performance.



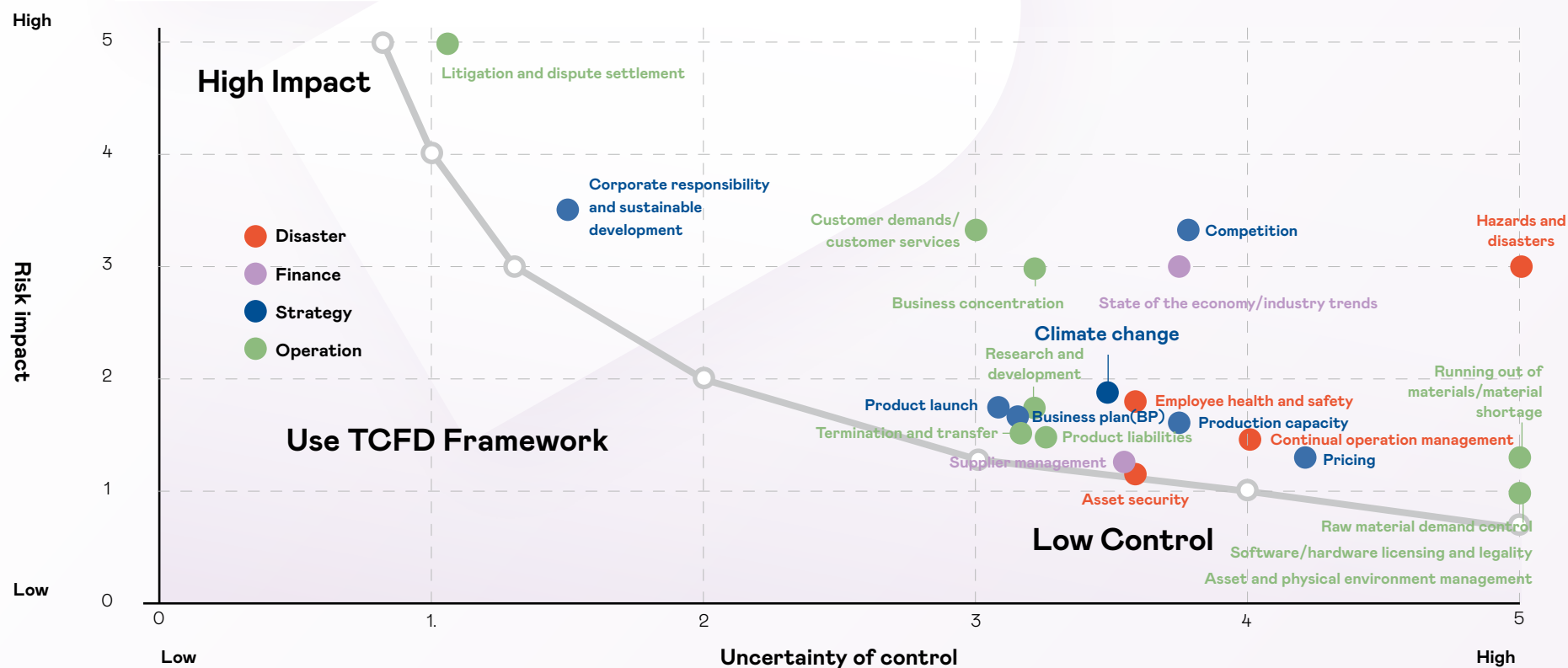
03.Risk Management

- Reinforced climate risk management

2022 risk identification matrix results

TCFD-based risk scenario case studies are combined with annual risk identification operations. In addition, up to 100 executives of competent units at the plant and division level in the fields of manufacturing, products, technology, human resources, and financial affairs pinpoint challenges and opportunities affecting organizational operations in the short and medium run based on an overall assessment of “climate change - carbon management” issues.

Chart of annual risks and opportunities



Risk Screening Process

We conduct annual risk identification in a meticulous and systematic manner. Operational risks are assessed by executives at the plant and division level within the scope of their responsibilities in accordance with risk scenario incidence rates and impact levels based on 75 risk issues in the financial, strategy, operation, and hazard dimension. In line with the rising international concern about the climate crisis and green transition processes, climate change-related carbon management issues were included in assessments in 2021.

Upon completion of risk identification, quantification, matrix design, further analysis, and ranking in 2022, risk items with a risk value equal to or higher than 4 and high impact level and low controllability characteristics were selected. These items were reported to the ESG & Climate Committee to determine annual high-priority risks. 23 items were listed as risk items of high concern.

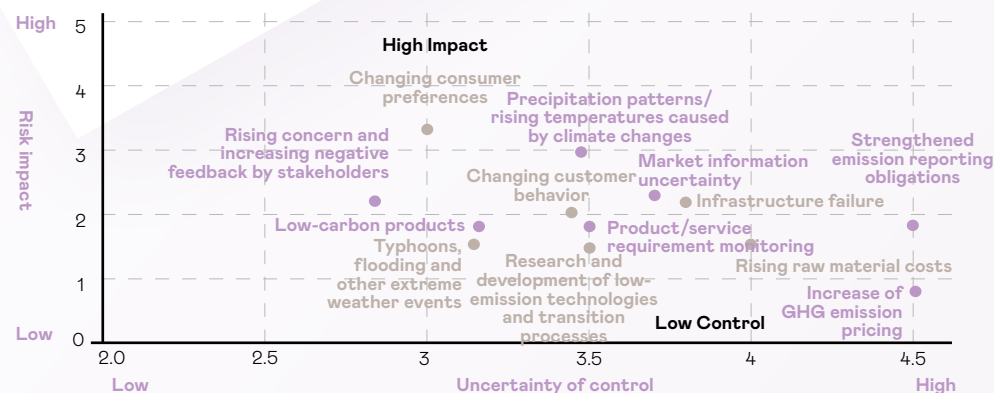
The strategy and operation dimension represent the main categories of the aforementioned risks of high concern. In the strategy dimension, we respond to production capacity limitations caused by supply chain bottlenecks on global markets and the net-zero consensus in the context of global low-carbon transition trends with solid actions and commitments adopted in a proactive manner. In the operation dimension, we persist in our efforts to mitigate the impact of soaring electricity tariffs and subsequent carbon fees and taxes through energy efficiency enhancements by relying on smart manufacturing projects.

In addition to carrying out risk identification operations, the Governance Task Force closely monitors external trends and developments to ensure that all risks with a potential impact on our operations are taken into consideration in a circumspect and prompt manner. In 2022, key issues such as impacts on natural disaster insurance premiums, carbon taxes and fees affecting plant areas, and green washing litigation concerns arising from inadequate disclosures were incorporated into the management mechanism upon assessment. Rapid adoption of response and contingency procedures is ensured through early deployment and linkage of relevant units. We also strive to ensure maximum flexibility in the field of process improvements and constantly optimize our crisis response capabilities. The crisis management framework is constantly refined to minimize the impact of risks on our operations.

Breakdown based on the TCFD framework

Description of post-control observations:

1. Upon categorization on the foundation of the TCFD framework, risks identified by the organization were placed into the matrix.
2. Routine management items have moved to the bottom left corner and impacts generated by physical risks are incorporated into daily management.
3. Physical risks are gradually brought within the scope of low risk impacts and effective control. In contrast, we face increasingly daunting challenges in the transition risk dimension.



Note: Forms of the same kind are created based on mean results

2022

All-out monitoring

System operations

- Comprehensive climate-carbon risk identification procedures carried out by 116 executives at the plant and division level
- Risk identification is based on the TCFD management framework

Quantified risk matrix

Severity&Incidence rate

- Risk matrix based on severity vs. incidence rate

TCFD-based management

PDCA-based ongoing improvements

- Monitoring and ongoing improvements to past listed projects
- Judgment of financial impacts in consideration of current risk issue scenarios
- Proposal of management measures to minimize risks

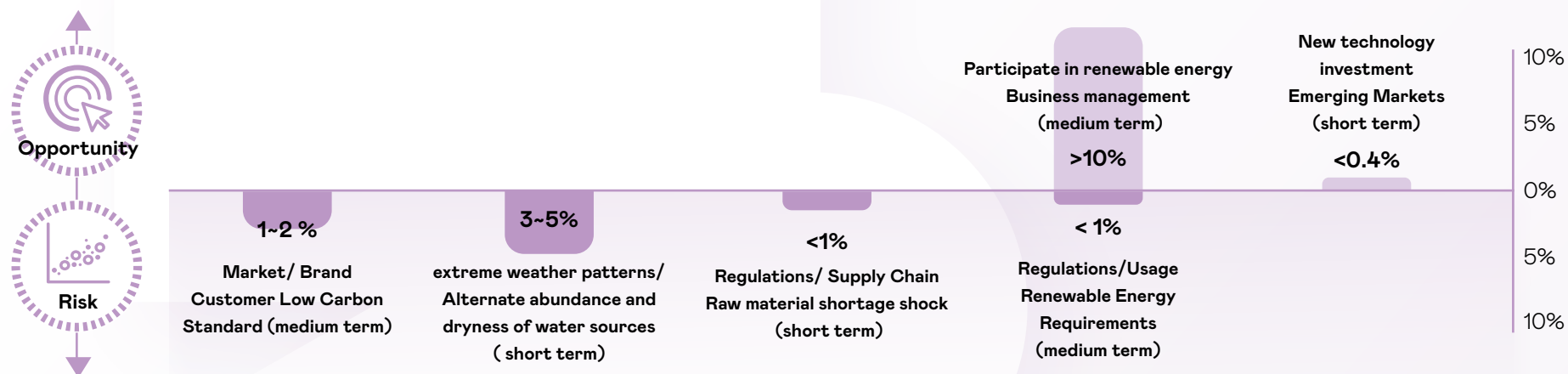


▪ Overview of climate-related risks in the past (based on TCFD)

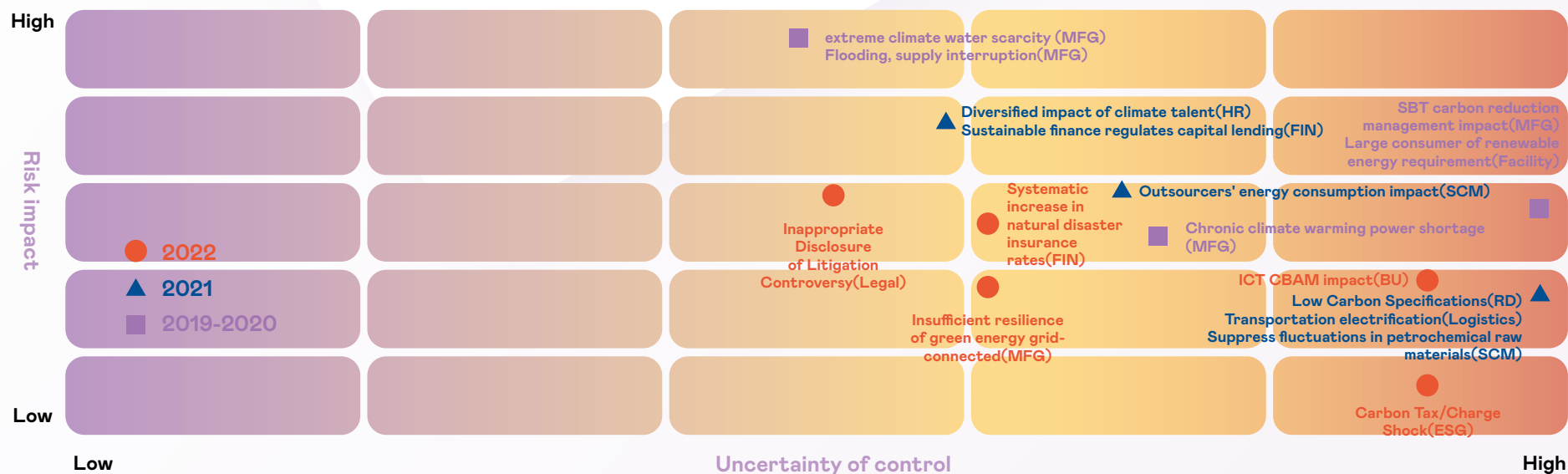
Annual TCFD-based risk projects are shown below (generated project-based risk scenarios derived from annual risk identification and results of assessments conducted by the TCFD Task Force based on the state of intra organizational operations)

2019		2020		2021		2022	
Sustainable management	Projected impact of cap implementation in 2025 SBT as the upper limit of the allocation pathway	Finance (Insurance)/Manufacturing	Financial losses and rising insurance premiums caused by natural disaster risks	Logistics	Assessment of impacts of external technology development and transportation electrification Impact on company logistics and financial reports arising out of land transportation resource scarcity and rising costs due to worldwide fossil-fuel vehicle bans	Business	Impact of CBAM tariffs imposed by importing countries on export sales of ICT industry products <ul style="list-style-type: none">Increased costs and complicated customs procedures caused by the trial implementation of EU carbon tariffsImpact of issues such a calculation methods, declaration mechanisms, bilateral recognition (Carbon fees in Taiwan)
	Response to carbon tax implementation in Singapore Singapore passes on carbon taxes to electricity users		Transportation network disruptions and plant losses caused by climate-related factors (flooding) <ul style="list-style-type: none">Lingering typhoons, consecutive heavy rain days, and persistent flooding resulting in failure of flood drainage facilities in industrial park and plant areasFlooding of IM or more in plant premises resulting in damage to power equipment and failure of raw material feeding controls		Multidimensional impact of climate issues on talent Intensified talent development in response to the intraorganizational shortage of net-zero talent in different fields and the impact of net-zero and carbon reduction trends on the intraorganizational demand for relevant professional talent		
Manufacturing	Impact of R&D expenditures associated with changing customer and market demands Expanding impact of performance standards for eco and energy labels on consumer behavior			Impact of ESG investment trends and Sustainable Finance Disclosure Regulation (SFDR) Impacts of ESG investment trends and Sustainable Finance Disclosure Regulation (SFDR) on capital lending and market values: <ul style="list-style-type: none">Increased interest costs if the criteria for preferential syndicated loan interest rates are not metHigh carbon emission density resulting in loan rejectionDowngraded ESG rating resulting in removal from investment lists of relevant fundsOther potential impacts of downgraded ESG rating (or poor ESG performance)		Power grid fragility caused by electricity bottlenecks and increasing renewable energy ratios in Taiwan <ul style="list-style-type: none">Impact of high power demand (TSMC plant expansion) in Taiwan on operating reserves during peak periodsLowered grid stability caused by renewable energy supplyHigher frequency of large-scale power outages and voltage drops caused by feeder line collapse	
R&D	Impact of the provision requiring major electricity users to install renewable energy power generation and storage facilities amounting to 10% as set forth in the Renewable Energy Development Act Financial impact of the provision requiring major electricity users to purchase a certain amount of electricity generated from renewable energy and a certificate as set forth in the Renewable Energy Development Act	Energy	Impacts of and responses to laws governing solar panel recycling Fines for violations and damage to company reputation caused by improper handling and disposal of large quantities of solar panels via existing recycling channels	Finance	Supply chain impacts of rising raw material prices caused by global restrictions on the fossil fuel industry Energy supply imbalances and irregularities under the impact of the accelerating global momentum towards low-carbon transition resulting in dramatic fluctuations of energy prices and potential impacts of national policies on raw material production in the short and medium run. Supply chains with low transition resilience face business interruptions or increased costs	Plant Affairs	Green washing dispute/litigation concerns arising from inadequate disclosures <ul style="list-style-type: none">Excessive zeal in the field of ESG investments misleading enterprises into disclosing informationLitigation/disputes arising from losses caused by misplaced investments in financial products
Plant Affairs/ Energy	Impact of typhoons/flooding on production <ul style="list-style-type: none">Typhoon/torrential rain scenarios resulting in increasing turbidity of reservoir water sources beyond the capacity of water treatment plantsImpact of lightning-induced voltage drops (in milliseconds) and the extent of such drops (in %) caused by severe weather systems on sensitive machinery				EU circular economy-based requirements with regard to right to repair and recycled materials of consumer electronics products and adopted contingency measures Specific products fail to meet the requirements arising out of carbon reduction commitments or participation in renewable energy initiatives on the part of European customers		Changing market demands and household appliance specifications triggered by the latest trends in the fields of green building concepts and low-carbon lifestyles Order loss caused by the inability to meet customer requirements associated with changes in electronic display specifications triggered by related market demands related to low-carbon lifestyle trends (numerous brands have revealed concrete carbon reduction goals for their products in 2025 with a focus on recycled materials and high-performance products)
	Plant Affairs	Impact of abnormal peak power consumption during summer months on production <ul style="list-style-type: none">Assessed impact of RCP8.5 temperature rise scenario described in IPCC Fifth Assessment Report (AR5) on AC power consumptionImpact of Taipower power rationing measures due to unstable power supply in the context of the heatwave scenario	Manufacturing/ Business	Carbon reduction demands of brand customers (Carbon footprint reduction) Required conformity of products to eco-design principles based on the circular economy spirit in compliance with EU laws and standards	Operational risks faced by Chinese contractors and suppliers due to local carbon controls Chinese contractors and suppliers face the following operational risks arising from local carbon controls <ul style="list-style-type: none">Business interruption risks caused by the inability of the panel industry to respond to the carbon reduction policy blueprint of the National Development and Reform Commission (NDRC) in a timely mannerExpansion of the scope of the carbon trading market and industry in China and carbon trading price in 2030 resulting in an electricity price hike by 10%	Finance	Natural disaster risks and market insurance conditions <ul style="list-style-type: none">Updates on and tracking of insurance product market changes in the face of more and more diversified climate risks and issues
		R&D		Outsourcing	Manufacturing		

2019-2022 Status of Scenario Setting

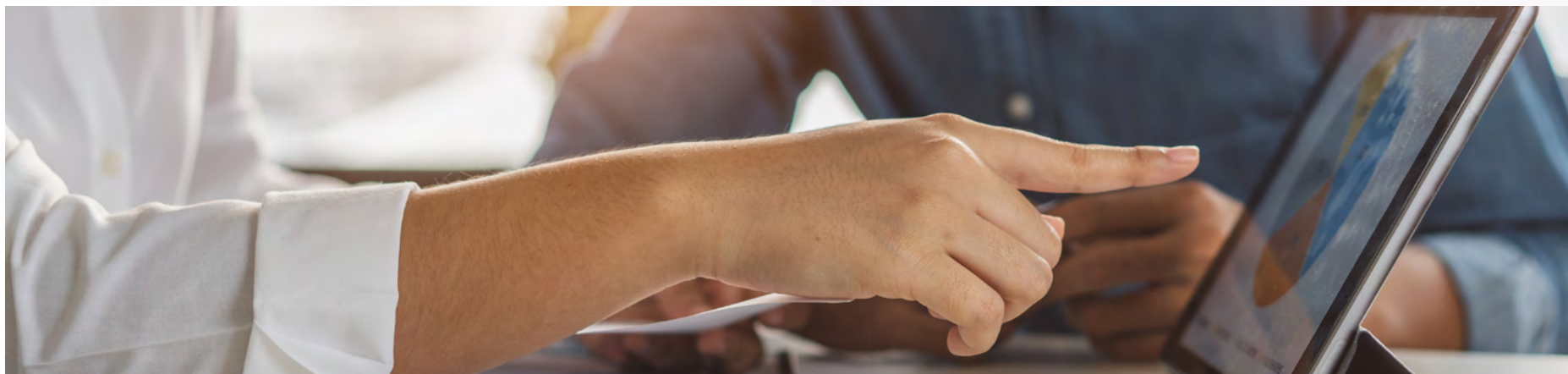


The results of climate risk and opportunity financial impact assessments as a percentage of annual turnover






▪ Description of assessments of climate-related risks/opportunities/issues in 2022

Risk category	Item	Stakeholder(s)	Challenges and opportunities	Financial impact	Key contingency strategies
Transition risk	Impact of CBAM tariffs imposed by importing countries on export sales of ICT industry products	AUO, customers	<ul style="list-style-type: none"> Increased costs and complicated customs procedures caused by the trial implementation of EU carbon tariffs Impact of issues such as calculation methods, declaration mechanisms, bilateral recognition 	Moderate	<ul style="list-style-type: none"> Ongoing monitoring of the latest development in the field of CBAM norms and regulations for electronic parts and components Optimization of process-oriented carbon reduction and increased use of renewable energy to lower carbon emissions caused by production processes
	Power grid fragility caused by electricity bottlenecks and increasing renewable energy ratios in Taiwan	AUO, suppliers	<ul style="list-style-type: none"> Impact of high power demand in Taiwan on operating reserves during peak periods Lowered grid stability caused by renewable energy supply Higher frequency of large-scale power outages and voltage drops caused by feeder line collapse 	Low	<ul style="list-style-type: none"> Enhancement of emergency power reserve capacities and load times to cope with peak power restrictions caused by insufficient Taipower operating reserves Ongoing review of production equipment capabilities to suppress the impact of voltage drops in response to grid instability
	Green washing dispute/litigation concerns arising from inadequate disclosures	AUO, financial institutions	<ul style="list-style-type: none"> Excessive zeal in the field of ESG investments misleading enterprises into disclosing information Litigation/disputes arising from losses caused by misplaced investments in financial products 	Low	<ul style="list-style-type: none"> Review of renewable energy purchase and sale conditions RE100 pathway achievement status through regular internal reporting and tracking Internal management and external assurance of contents disclosed in sustainability reports to confirm the authenticity and accuracy of such contents. In the future, we will persist in our efforts to optimize the management and control mechanism for report disclosures.
	Natural disaster risks and market insurance conditions	AUO	<ul style="list-style-type: none"> Updates on and tracking of insurance product market changes in the face of more and more diversified climate risks and issues 	Low	<ul style="list-style-type: none"> Regular (quarterly) tracking of insurance market changes Assessment of the impact of market or product changes prior to effecting insurance or policy renewal
	Impact of carbon tax/carbon fee mechanism adjustments	AUO	<ul style="list-style-type: none"> Carbon tax rate increase starting in 2024 and successive upward adjustment in stages in Singapore Expected levying of carbon fees in Taiwan 	Low	<ul style="list-style-type: none"> Quantified estimate of financial impacts Establishment of a carbon emission management system Regular review of carbon emission reduction results



▪ Quantified financial impact of climate change risks

Based on the results of climate risk identification, we take account of internal and external environmental changes affecting the top three risks about product carbon footprint, market and product competitiveness, and business continuity. And quantify and assess financial impacts with reference to domestic and international corporate disclosure methodology.

Risks	Risk-related financial quantification results	Assessment method
 Lowered product carbon footprint	Renewable energy, carbon fees, supplier transfer..., those impacts increase the operating costs	Setting of short-, medium-, and long-term goals until 2025, projected carbon savings of 5%, 10%, and 20%, ongoing efforts to reduce direct and indirect materials, equipment improvements coupled with decreased power consumption, quality verification, and additional carbon reduction value (use of renewable energy, purchase of certificates, development of carbon capture technologies, carbon capture through forestation)
 Market and product competition	Decreased order volume, reduced revenues and costs	<ul style="list-style-type: none"> ▪ Development of high-end products and increased added value through integrated product solutions Joint development of next-generation technologies in close cooperation with customers to maintain a leading technological edge ▪ Adjustment of business models, increase of the market acceptance of diversified value solutions, ongoing adoption of market analysis and development capability mechanisms, precise investments, and profound alliances with business partners ▪ Close monitoring of market supply and demand conditions, dynamic adjustment of optimal shipping volumes paired with differentiated product development
 Operation dimension (Illustrated by the example of flooding risks)	Increased holiday and overtime pay/ transportation allowances and delivery vehicle dispatch fees resulting in rising costs	<ul style="list-style-type: none"> ▪ Advance confirmation of required contingency plans, inter-plant support and resource allocation, and flexible outsourcing ▪ Reinforced mechanism for the handling of risks associated with material supply disruptions affecting production lines (BCP) including alternative supply sources and off-site production ▪ Optimization of product quality controls and return/exchange mechanisms

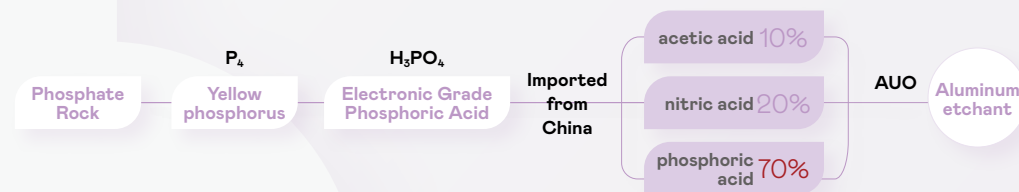
- Transition risk case study:

Case 1

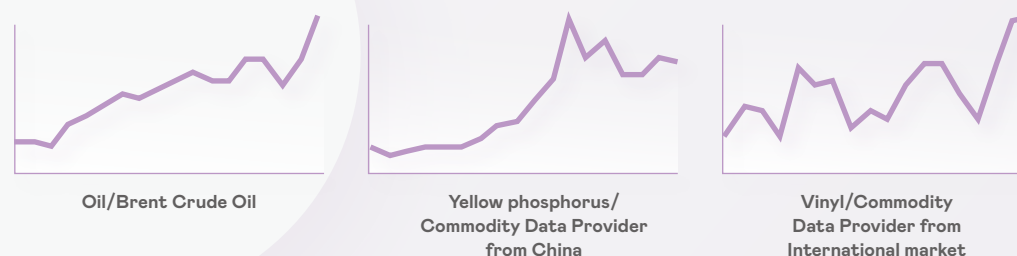
Supply chain impacts of rising raw material prices caused by global restrictions on the fossil fuel industry

Due to fluctuations in global energy prices, the carbon reduction policies of various countries may affect the production of raw materials, resulting in operational disruption or cost increases in certain supply chains with weak transitional resilience. AUO utilizes a wide range of chemical materials in its processes. The purchasing prices of raw materials are strongly linked to the market price trend of upstream raw materials. Consequently, the Company takes stock of the total cost of raw materials purchased and chooses one of the key chemical materials to assess the financial impact. According to the analysis results, in the short term (roughly one quarter), the impact of increasing raw materials will account for 3.3% of the Company's revenue. In response to possible financial impacts, AUO has monitored the prices of raw materials according to their respective regions and characteristics. It also established a real-time monitoring system to determine the changing conditions of upstream materials. The Company can effectively manage key raw material suppliers' inventory through long-term supply contracts.

Illustrated by the example of phosphoric acid - up- and downstream industries



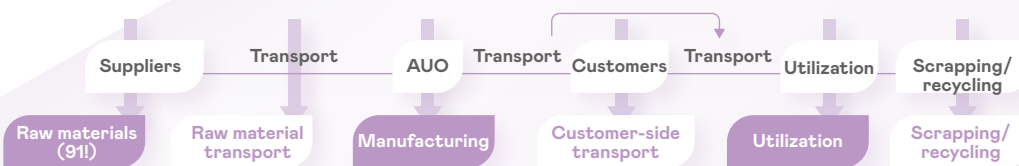
Raw material monitoring - leading indicators



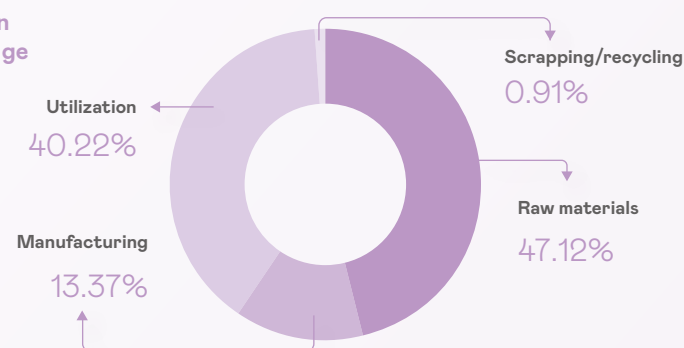
Case 2

Changing market demands and household appliance specifications triggered by the latest trends in the fields of green building concepts and low-carbon lifestyles

Customers monitor product recycling materials and energy efficiency closely. If AUO's low-carbon products cannot satisfy the customers' needs, its profitability and market competitiveness will be compromised. After analyzing the products with large shipments, AUO discovered that the energy consumption of the backlight module is approximately 3.5 to 4.5 times that of the panel itself. Improving the panel penetration rate offers a possible solution. However, introducing a new process also increases production costs. After a comprehensive evaluation of factors including market demand, production costs, and loss of profits, the introduction of new technologies will decrease the financial impact from 25% to 12.5%. Therefore, AUO has formulated a short-term response strategy to implement new designs technologies, and materials when developing the customers' products. Furthermore, the Company reasonably controls costs to ensure revenue and accommodate customers' demand for low-carbon products. In the long run, AUO will continue to monitor the market trends to ensure that the product design aligns with the low-carbon trends.



Proportion of carbon emissions in each stage of product carbon footprint

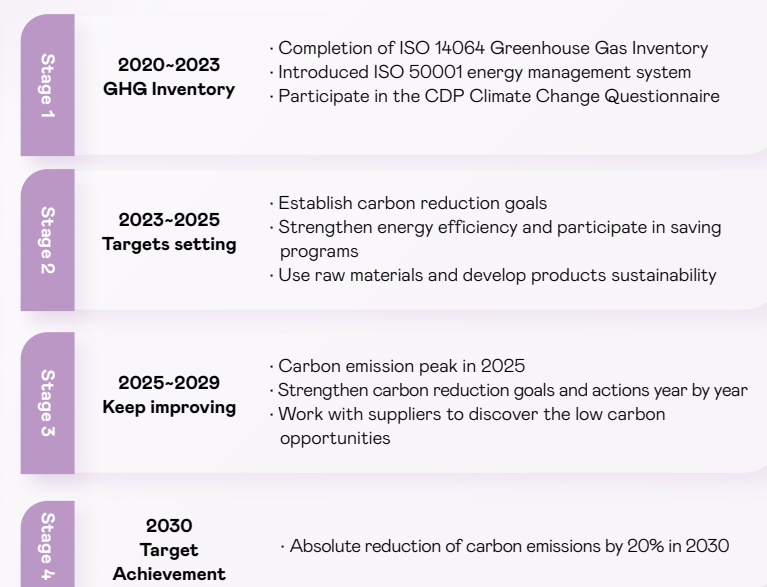
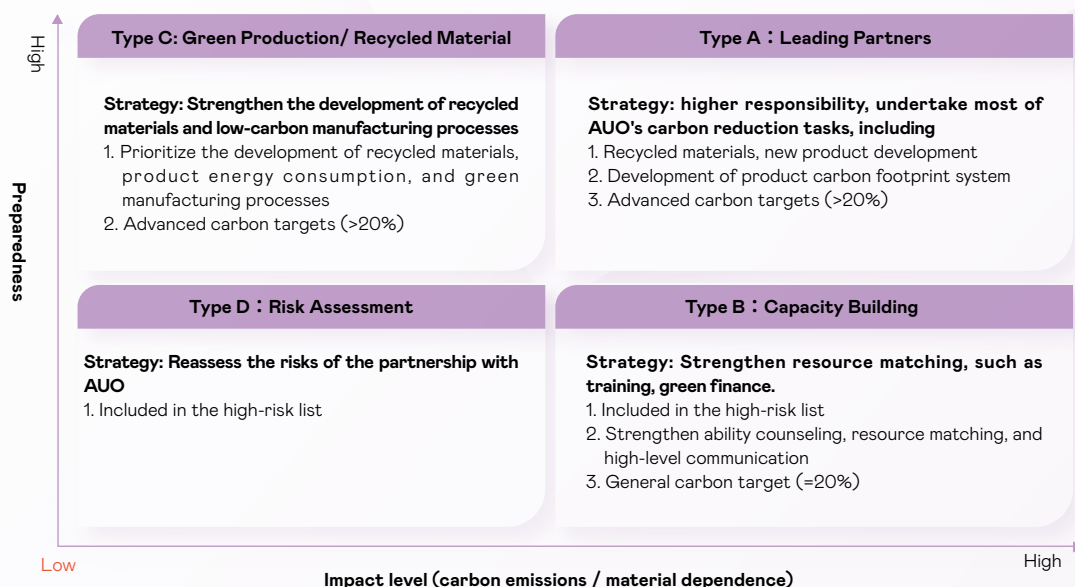
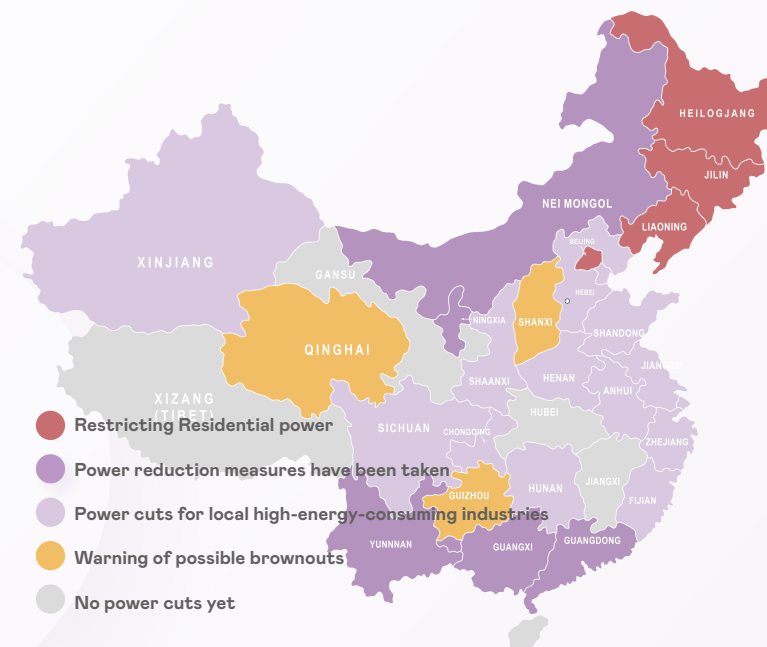


-Transition risk case study:

Case 3

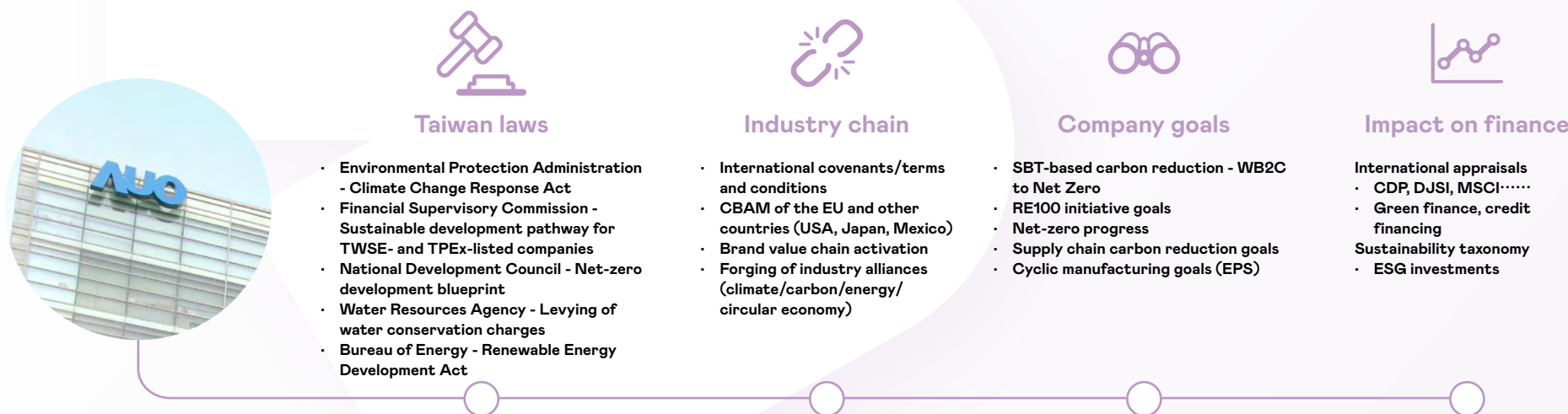
Operational risks faced by Chinese contractors and suppliers due to local carbon controls

In recent years, China has proposed major carbon reduction commitments and policies such as adjustment measures for the industrial and energy structure, which may lead to operational disruption due to the industry's inability to respond in time. Coupled with the future development of China's carbon trading market, electricity prices may increase, in turn, affecting AUO's subcontractors and suppliers in China in terms of supply and operating cost pass-through. AUO uses key process subcontractors as the evaluation target. Under the assumption that the production capacity of the manufacturer is limited by the policy and the scenario where the supply chain is disrupted for one month in a year, the pass-through cost of each module cost increase (including the cost of electricity) will have an impact of about 0.6% on the Company's revenue. After surveying the first 50 suppliers, AUO found that some suppliers have not conducted carbon inventory or implemented carbon reduction measures. To minimize the risk of chain disruption, AUO immediately requested and assisted key manufacturers in devising effective energy and carbon emission management measures, including requiring manufacturers to set carbon reduction targets and using renewable energy as a solution, as well as implement the ISO 14064 carbon inventory and ISO 50001 energy management systems. The management approach was also expanded to key tier-two suppliers.



▪ Transition risk case study: Cap implementation and carbon trading

After the conclusion of COP26, low-carbon transition plans at the national and industry level all over the world were proactively reviewed on an ongoing basis. Industries with high EUI, in particular, drew heightened attention. We have therefore made a firm commitment to the SBT-based absolute reduction and RE100 pathways and move forward the 2050 net-zero goal. In addition to carbon reduction implemented by the organization, an even more far-reaching demand stemming from low-carbon products and carbon footprint inventories conducted by customers exists in the value chain systems. All our annual TCFD-based risk proposals therefore contain transition risk items. Due to uncertainty factors associated with transition risks, almost all of the more recent proposals exhibit a pattern of transition risks by far exceeding physical risks.



Climate transition opportunity case study

Case 1

SPIIDER Energy conservation and carbon reduction: SPIIDER

AUO Digitech is a brand-new AUO subsidiary specializing in the provision of smart industry services through global deployment. It has established a presence in Singapore, Taiwan, and China. We are deeply committed to becoming a provider of digital transformation services centered around smart manufacturing and digital transformation solutions. The goal lies in a perfect synthesis of the manpower, machinery, material, legal, environmental, and AI dimensions of the manufacturing process and provision of all-inclusive solutions ranging from top-level design to vertical industry soft- and hardware.

Smart Grid, which targets the needs of factories in the field of power consumption management, employs a modular architecture to achieve a synthesis of data analysis and AI technology through collection of electric

current information via an installed IoT-based set-top box. The goal is to assist the manufacturing industry and other enterprises in their efforts to realize the goal of net-zero carbon emissions and make smart use of internal resources.

Conservation X Smart Savings - Most powerful tool for sophisticated management of factory power consumption

Effects of energy conservation services: Annual savings amounting to 6,833 metric tons of carbon emissions, 13,612 Mwh of electricity, and NT\$ 30.08 million in electricity fees

Enterprise pain points



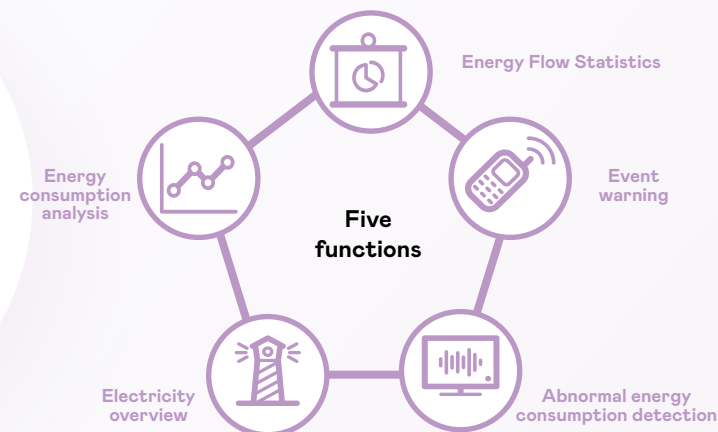
High energy consumption
equipment without monitoring



Lack of manpower and tools



Unable to detect abnormalities in time



Case 2

Zero emission & water conservation technologies

AUO Envirotech, which was founded in January 2017, harnesses the capabilities of professional personnel with 20 years' experience in plant operations in the fields of chemical, electrical, and environmental engineering to provide customers with water treatment and intelligent control technologies in form of integrated, sustainable solutions. In line with circular economy trends, AUO Envirotech strives to expand its influence to other enterprises through the promotion of concepts that place equal emphasis on the three ESG dimensions.

The company offers economically feasible water reclamation systems that enable plants to achieve a water reclamation rate of over 90% through ongoing technological advances and breakthroughs

and effective diversion design. Through repeated reclamation, process wastewater is concentrated and reduced by over 95%. The goal of zero emissions is achieved through a highly efficient vaporizer. This technology represents the most cutting edge water reclamation solution currently available in the manufacturing sector.

Water Conservation X Water Generation X Low Energy Consumption - Room-temperature, zero-emission vaporizer technology



Effects

Energy conservation >50% (compared to traditional heat treatment technology)

Competitive advantage:



Low energy consumption,
high stability



Resourceization
of solid and liquid
waste



Low installation and
operating costs
Easy maintenance

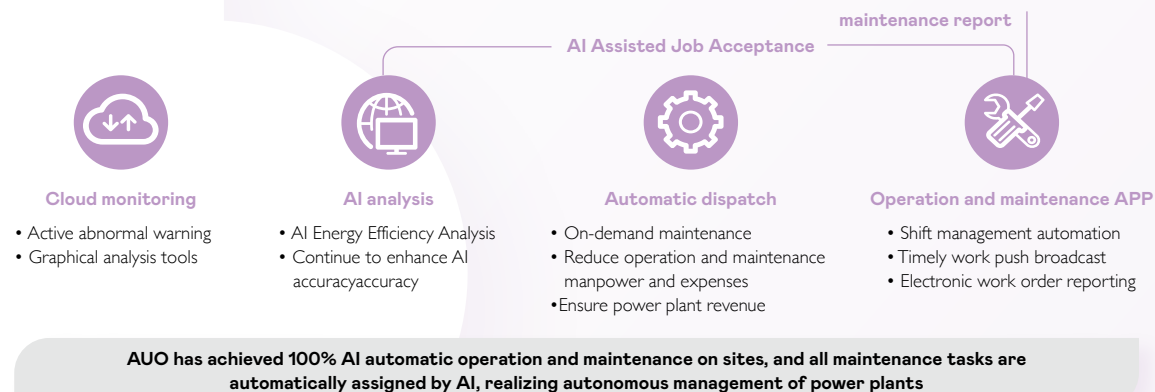
Case 3 Power Plant EPC Project

AUO is steadfastly committed to providing all-in-one solar power plant solutions by harnessing its professional competence and competitive edge in the field of turnkey power plant ecosystem installation. In addition to our extensive experience in the development of different types of power plants, we offer high quality and highly reliable modular products, EPC turnkey projects, and maintenance services. We have further established an innovative platform for power plant investments to initiate a brand-new power plant operation model.

As for our sales channel operations, we strive to expand our package solution services to realize one-stop purchases of solar energy systems. In response to the COVID-19 pandemic and digitization trends in 2021, we moved our offline package sales channel online by launching our “AUO Energy Shop” e-commerce platform, which represents a pioneering move in the Taiwanese solar energy industry.

Power plant all-in-one maintenance process management - optimized green power generation & storage solution

Power plant all-in-one maintenance process management

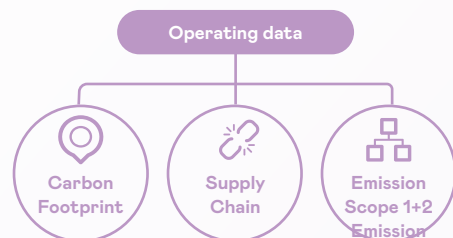


Case 4 ACA Carbon management

The ISO standard-based carbon management system assists customers in decision-making analysis, long-term monitoring, and ongoing improvements. We offer coherent services ranging from carbon reduction strategy management to carbon reduction project execution and encompassing guidance, system adoption, certificate acquisition guidance, carbon reduction goal setting, energy conservation diagnosis, and application for financing or subsidies. We have set up a carbon management platform that covers the whole value chain by tapping into the capabilities of existing operating sites of the enterprise to promote carbon management strategies and facilitate long-term monitoring and ongoing improvements.

Carbon emission monitoring strategy management - Low-carbon Transition X Net-Zero Pathway

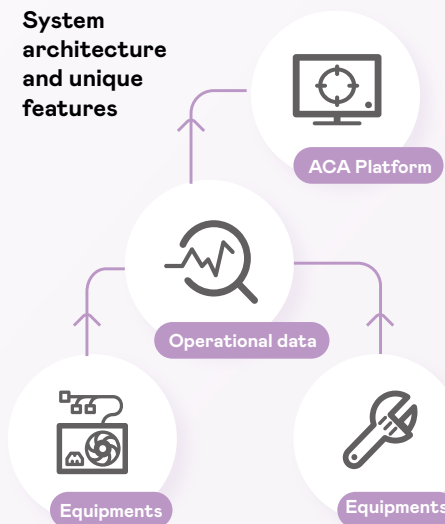
Scope of applicability



Competitive advantage



System architecture and unique features



04.Indicators & Target

GHG emission indicators & target

We have identified the following three main axes of our AUO EPS sustainable development strategy in sync with the UN Sustainable Development Goals: Environmental sustainability (Environment), inclusive growth (People), and flexible innovation (Society). We are actively committed to realizing our medium- and long-term social development goals by 2025.



Environmental sustainability

Implementation of low-carbon manufacturing and circular use of resources in the value chain to realize environmental sustainability

Energy Optimization

2025
Target

Set reduction targets based on life-cycle and reduce carbon emissions by up to 6.5 million tones CO₂e cumulatively

2022
Result

Cumulative carbon savings of 6.87 million metric tons on the foundation of life cycle concepts and early achievement and surpassing of preset goals; over 990 annual energy conservation improvement programs resulting in an annual power saving rate of 2.87%; self-generated and self-consumed green power amounting to 1.106 TWh; purchase of green electricity certificates equivalent to 4 Twh via the official green energy platform; 1.1% renewable energy use in 2022.

Water Optimization

2025
Target

Work with the value chain to combat the threat of water resource shortages and conserve up to 100,000 CMD in tap water cumulatively.

2022
Result

Long-term experience in smart manufacturing and in-depth application of AIoT technologies in process and plant water systems for the purpose of equipment automation and process optimization resulting in decreasing reliance on natural water resources and a process water recovery rate of 95%.

Circular Production

2025
Target

Spearhead the development of the circular value chain, expand its economic performance and achieve a growth rate of 135%.

2022
Result

Constant technological breakthroughs and expansion of material recovery penetration rates, use of recycled materials for 33 products (recycled material usage rate in products with special specs exceeds 20%). advanced all-in-one waste management resulting in YoY decrease of waste generation by 7.7%; achievement of display packaging material recycling rate of 92.9% in cooperation with suppliers.

Climate Adaptation

2025
Target

Increase the resilience of climate adaptation and continue to reduce the risk of nancial impact from climate change issues.

2022
Result

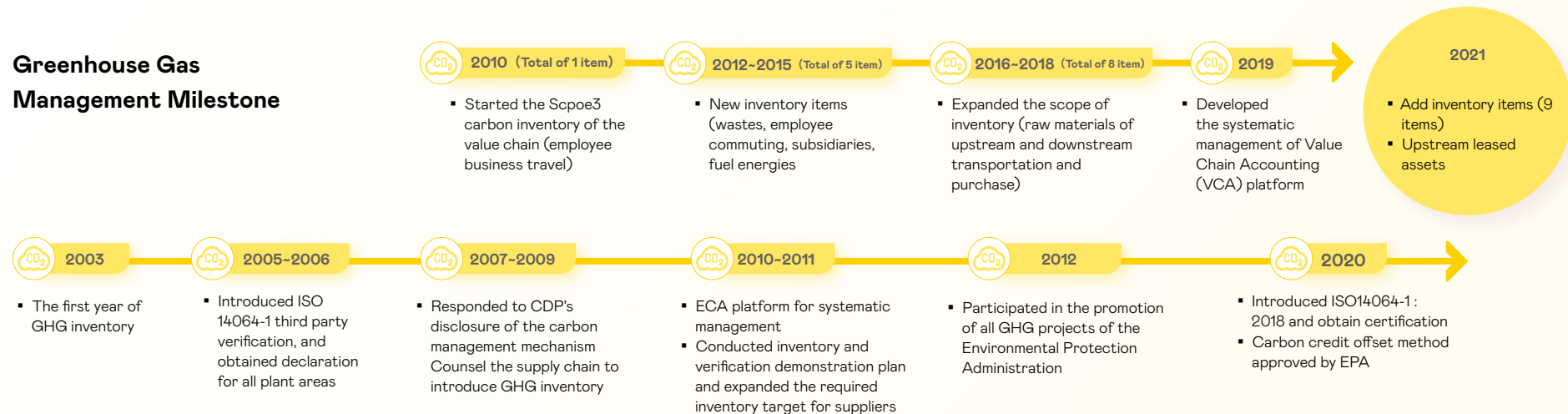
Careful consideration of the potential impact of climate change on company operations; ongoing integration of TCFD risk scenarios into annual risk identification operations in 2022; recording and management of issues identified by over 100 executives upon clustering, analysis of financial impacts, and ongoing control and tracking.

■ AUO emission statistics and verification

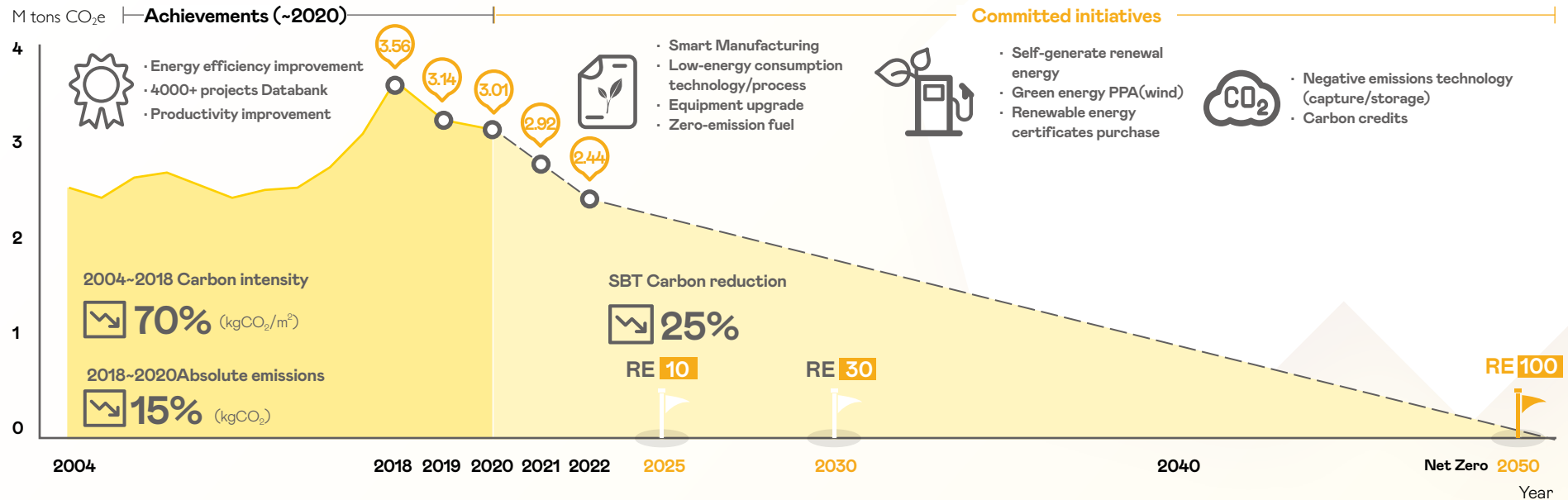
AUO began inventorying the GHG emissions of our global manufacturing sites in 2003, and introduced the ISO14064 standard to disclose emissions-related information through external verification. We developed a digital platform internally in 2010 to systematically manage the organization's GHG emissions as a means of managing long-term operational carbon reductions. In 2020, the latest ISO14064 standard was introduced to continue refining GHG inventory management.

A. Direct GHG emissions	69,745.35 Ton CO ₂ e		2.02%
B. Indirect emissions from electricity and steam	2,373,369.68 CO ₂ e		68.84%
C. Indirect GHG emissions generated by transportation	Upstream transportation emissions	3,092.71 Ton CO ₂ e	0.09%
	Business travel	1,051.32 TonCO ₂ e	0.03%
	Employee commuting	21,764.02 Ton CO ₂ e	0.63%
	Downstream transportation emissions	31,004.97 Ton CO ₂ e	0.90%
D. Indirect GHG emissions from products used by the organization (upstream)	Upstream leased assets	242.72 Ton CO ₂ e	0.01%
	Purchased products and services	472,378.32 Ton CO ₂ e	13.70%
	Fuel and energy related activities	402,996.91 Ton CO ₂ e	11.69%
	Wastes generated during the production process	18,126.84 Ton CO ₂ e	0.53%
E. Indirect GHG emissions from the use of the organization's products (downstream)	Investment process	53,828.04 Ton CO ₂ e	1.56%
	Total	4,206,558.48 Ton CO ₂ e	100%

Greenhouse Gas Management Milestone



▪ A Pathway to a Net Zero Future 2050



International initiatives

- SBT: We have made a long-term commitment to implementing carbon management and setting ambitious carbon reduction goals. This commitment to SBT-based carbon reduction goals despite our full awareness of the formidable challenges is based on our firm conviction that this is the most direct and effective response to our climate emergency. On the foundation of the WB2C (Well Below 2°C) scenario, we have made a firm pledge to achieve the goal of an absolute reduction by 25% in 2025 (2018 is set as the base year) under the premise of an ongoing expansion of production capacities.
- RE100: In early 2022, we formally joined the international RE100 initiative and became the first display manufacturer worldwide to officially commit to a full transition to renewable energy in 2050. In response to customer demands, we have expanded the use of renewable energy. We have made an unwavering commitment to 30% and 100% renewable energy in 2030 and 2050, respectively, as our medium- and long-range goals.

Future advances & goals for different stages

- Energy Efficiency: Continue to improve energy efficiency through ISO 50001. Besides saving 1.5% of electricity annually in the process and progressively lowering carbon emissions from power consumption, AUO has also applied smart manufacturing and digital technology to factory operations through the R&D of technical tools. In the future, AUO will invest in low-carbon fuel and replace obsolete equipment to gradually reduce organizational carbon emissions every year.
- Renewable Energy: Initially, AUO's existing power plants will be terminated and transferred to power supply, and continue to include diverse renewable energy purchase and sale contracts as well as green power certificates from abroad to achieve short-term internal goals every year. In the medium and long term, AUO will reach 30% by 2030 and 100% use of renewable energy by 2050, respectively, thereby decreasing indirect energy carbon emissions.
- Negative Carbon Technology and Carbon Credits Management: Redeem existing carbon rights, conduct carbon pricing management, and continue monitoring the economic feasibility and scale applicability of negative carbon technologies.
- Net Zero Buildings: Smart buildings and energy monitoring are complemented by self-contained solar energy as well as the purchase and sale of renewable energy to achieve zero carbon emissions by 2030 in all offices.
- Supply Chain Carbon Reduction: Stipulate the supplier carbon reduction target of 20% by 2030, where four stages of inventory verification, initiative participation, setting carbon reduction targets, and matching business opportunity are applied to realize low carbon transition with AUO's supply chain partners.

■ AUO Water 2025 goal



Water Reduction Goal

The depleting reservoirs in the first half of 2021 added the risk of water shortage-induced disruptions to the problems faced by the global ICT supply chain which was still reeling under the impact of the rampant pandemic. Fortunately, our TCFD-based advance deployment strategy which involved the adoption of green manufacturing concepts and early contingency measures including water conservation and material preparation enabled us to successfully weather this water shortage crisis. In addition, we have fully implemented the ISO 46001 Water Efficiency Management System as the guiding principle for our internal water conservation measures. The expanded implementation of certification audits ensures continuous eye-catching performance in the field of water conservation.



Water Reclamation Goal

AUO and Taichung City's Shuinan Water Reclamation Plant signed a contract in 2021, which is expected to begin supplying 9400 CMD water in 2024. The stable water resources will help free the Taichung plant from water shortage zone restrictions, which will be beneficial for setting the water consumption fee of the Reclaimed Water Resources Development Act. The goal of water reclamation involves the introduction of a wastewater reclamation plant in AUO's Kunshan plant in China to stabilize operations. In 2022, daily reclaimed water consumption in Kunshan amounted to 6,657 CMD, making it the primary source of production water for the plant.



Supplier Water Saving Target

To enhance the value chain's focus on water conservation and risk adaptation capabilities, AUO has been calling on suppliers to jointly promote water-saving measures since 2016. We are happy to share resources with suppliers who respond to water-saving actions, including sharing practical experiences of water resource management through supplier co-prosperity courses, in-house experts visiting supplier plants to provide onsite guidance, and assisting in detecting water use blind spots and offering improvement suggestions. From 2018 to present, a total of 373 water-saving projects have been implemented, achieving a total tap water-saving performance of 8,959 CMD.



Tap Water Consumption Reduced

by **16.08%**



Production Water Intensity Increase

by **20.69%** (*1)



Production Water Recycling

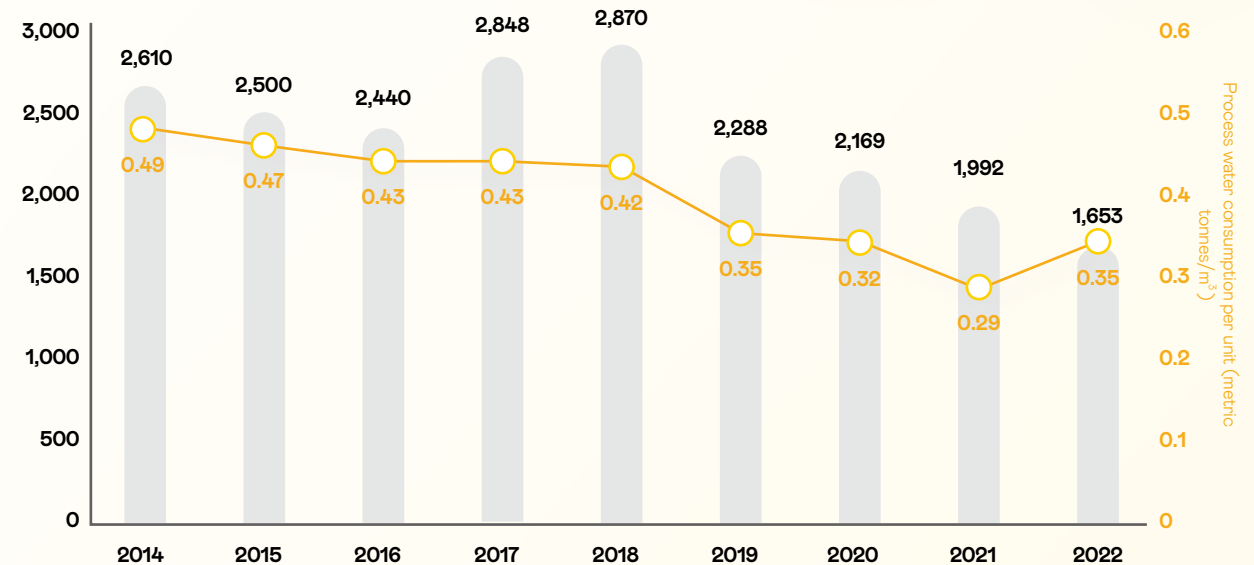
Rate **94.89%** (*2)

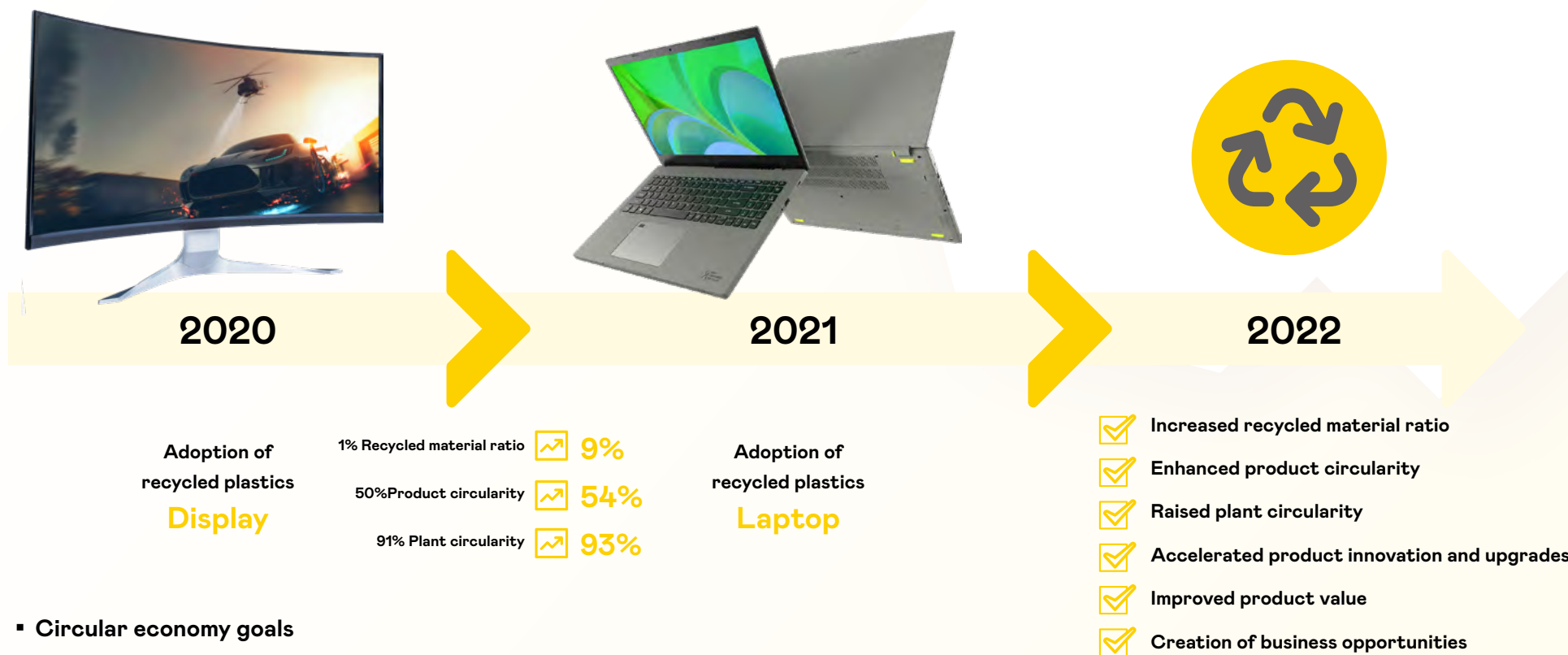
(*1) The calculation method is production water/ input sheet substrate area m²

(*2) The calculation method is process recycled water/ point-of-use (POU) consumption

KPI of Water Resource

Total production process water consumption
(Ten thousand metric tonnes)





▪ Circular economy goals

In sync with the UN Sustainable Development Goals (SDGs), we have incorporated circular production concepts into our 10 major goals for 2025 to echo the spirit of SDG12 (Responsible Consumption and Production). We are firmly committed to achieving an economic growth rate of 135% in 2025 through the expansion of circular economy-based business opportunities.

We constantly refine our product cycles and are firmly committed to pursuing our goals and thereby transcend traditional linear economic models and ensure effective reuse of resources. We meticulously plan the recyclability of products during the design stage and increase the ratio of employed recycled materials in the implementation process of circular economy models while placing equal emphasis on green manufacturing and fostering the adoption of innovative waste reduction measures. The ultimate goal is to achieve more universal economic benefits and minimize environmental burdens.

05.Sustainability Vision

Realization of our sustainability vision

We embrace the concept of simultaneous promotion of corporate growth and protection of our ecological environment. We will maintain our deep commitment to climate mitigation and adaptation pathways and implementation of energy, water, and waste management and air pollution control. In the face of climate change challenges, we adopt mitigation and adaptation responses and scrutinize risks and opportunities based on the TCFD framework. We also formulate countermeasures to enhance organizational resilience. Our ultimate goal is to maximize our influence in the industry and team up with our ecosphere partners to ensure sustained progress on the path towards a low-carbon, net-zero, and sustainable future.

淨零減碳領航者

Decarbonization Pioneer of Reaching Net-Zero Emissions



Appendix

References

AUO Sustainable Development Policy

AUO Risk Management Policy

AUO Environmental Health and Safety (EHS), Water Resource, and Energy Management Policy

AUO Sustainability Report →

AUO ESG Videos →