AUO

2024 TNFD Report

CONTENTS

01 Foreword

1.1 About AUO

Founded in 1996, AUO operates across Asia, the U.S. and Europe, with a global workforce of 41,000 employees. The company outstands and differentiates itself by broad experience, innovation capabilities, and corporate sustainability. From our foundation as a world-leading innovator in display technologies and solutions, our global group is diversifying across numerous vertical markets and industries, offering trusted expertise and proven technical know-how in a growing range of business areas.

Biodiversity provides rich resources and environmental services, serving as the cornerstone for the development of human society. AUO responds to international initiatives by incorporating biodiversity into its corporate ESG governance objectives. While pursuing the development of high-quality products through biaxial-axis transformation, the company also aims to shoulder its own citizen responsibility to protect the environment. Moving towards a vision of positive impact on biodiversity, AUO seeks to be recognized not only as a panel company but also as a sustainable industry leader working with value chain partners to protect the environment.

For more information about AUO's sustainability strategy and climate-related disclosure, please visit our Sustainability website and Sustainability Reports.

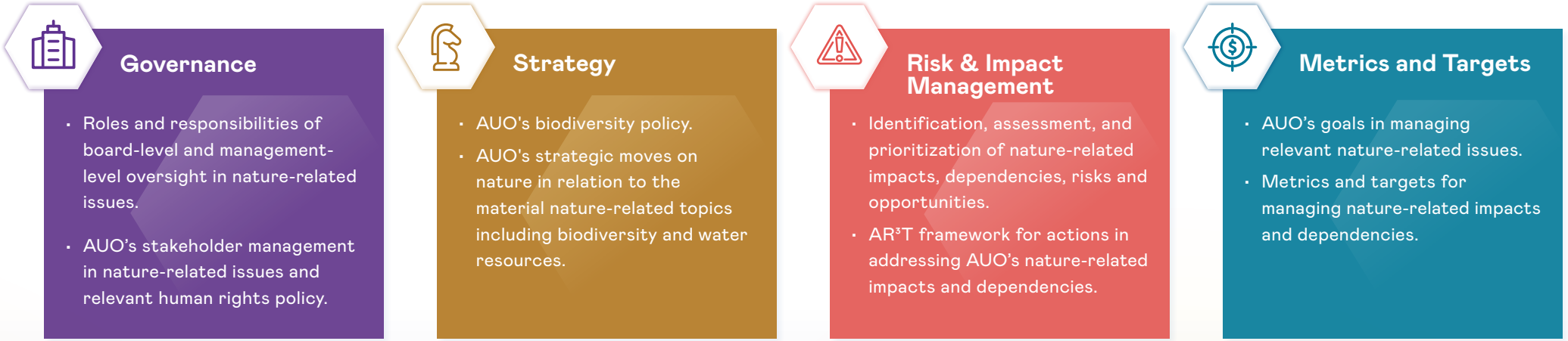
1.2 In Response to TNFD and the Global Nature-Positive Vision

AUO Corporation recognizes and aligns with the globally shared vision of achieving nature positive. Following the release of the TNFD v1.0 framework in September 2023, we have committed to acting as a TNFD Adopter, and start making disclosures aligned with the TNFD Recommendations in our corporate reporting by financial year 2024 through identifying, assessing, and disclosing nature-related dependencies, impacts, risks, and opportunities.

This report covers AUO's global production sites (including BHTC), assets with high natural value (such as Mabuville), and key value chain partners, featuring data and performance primarily from the year 2024. The scope of analysis considers potential impacts and dependencies related to nature. The report follows the TNFD v1.0 framework. The the TNFD recommended disclosure framework adopts a four-pillar reporting structure: Governance, Strategy, Risk & Impact Management, and Metrics & Targets. Figure 1 presents the major disclosure items of this TNFD Report in relation to the four-pillar structure.

Along with TNFD's published recommendations and guidance, this report also outlines the nature-related issues identified using TNFD's LEAP (Locate, Evaluate, Assess, and Prepare) approach to be further discussed in Section 4.1.

Figure 1 : TNFD Recommendations Framework



Reference: TNFD recommendations

1.3 Nature-related Guidance

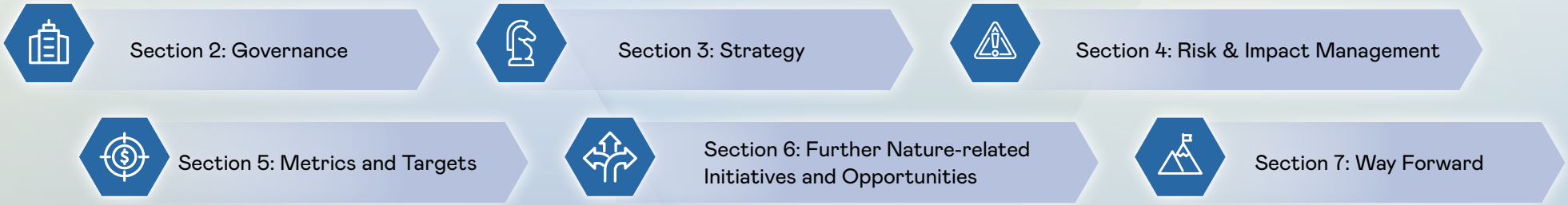
In addition to the TNFD Recommendations, AUO also adopts the recommendations from Science Based Targets Network (SBTN) and the World Business Council for Sustainable Development (WBCSD) as the guidance for our nature-related actions.

SBTN provides guidance on science-based target settings for nature to help halt and reverse nature loss and harness the opportunities this presents. The SBTN target-setting process is divided into five steps: Assess, Prioritize, Set targets, Act and Track. While there are common outputs from the TNFD LEAP approach and SBTN methods, SBTN provides further guidance on Act and Track. For the step Act, SBTN introduced the Action Framework AR³T for company action.

WBCSD has published the Roadmaps to Nature Positive: Foundations for All Businesses to provide guidance to businesses to address the risks of nature loss and begin their journeys to contribute to nature positive. To help guide business action on nature, WBCSD has collaborated with SBTN, TNFD, and the World Economic Forum and Capitals Coalition to provide business with a consistent approach: the high-level business actions on nature to Assess, Commit, Transform and Disclose (ACT-D), which basically aligns with the SBTN and TNFD frameworks.

1.4 Struture of this Report

Following the recommended TNFD four-pillar reporting framework, the rest of this report presents the nature-related financial disclosures in the following structure:



02 Governance

2.1 Board's Oversight on Nature

AUO's Board of Directors is the highest decision-making body, responsible for guiding company strategy, overseeing management and operations, and ensuring sound corporate governance. To proactively respond to stakeholders' increasing focus on environmental, social, and governance (ESG) issues, the Board restructured the former "ESG & Climate Committee" into the "Sustainability & ERM Committee" in 2024. This committee operates directly under the Board and convenes at least twice a year. It comprises three board members—the Chairman (serving as convener) and two independent directors—and is tasked with overseeing AUO's sustainability and risk governance (see Figure 2).

Figure 2 : Duties of the Management Committee of Sustainability and ERM

Sustainable Development	• Establish AUO's sustainable development guidelines, oversee the review, tracking, and revision of the implementation, and provide regular reports to the board of directors.	• Oversee the implementation of sustainability policies and frameworks, and determining critical decisions on sustainability, including technology applications, product value, energy development, green manufacturing, value chain management, civic responsibility including human rights, risk management, circular economy, and carbon energy.	• Strengthen communication with stakeholders and track their key concerns.	• Ensure the timeliness and accuracy of AUO's sustainability disclosure.	• Supervise other sustainability-related tasks instructed by the board of directors.
Risk Management	• Oversee AUO's risk management policies, procedures, and frameworks, and review the effectiveness of risk strategies.	• Approve qualitative and quantitative risk tolerance to effectively allocate resources.	• Implement the board of directors' decisions on risk management, supervise AUO's risk management mechanisms, and approve the priority of risk control.	• Review the implementation of risk management, provide improvement suggestions, and report to the board of directors annually.	

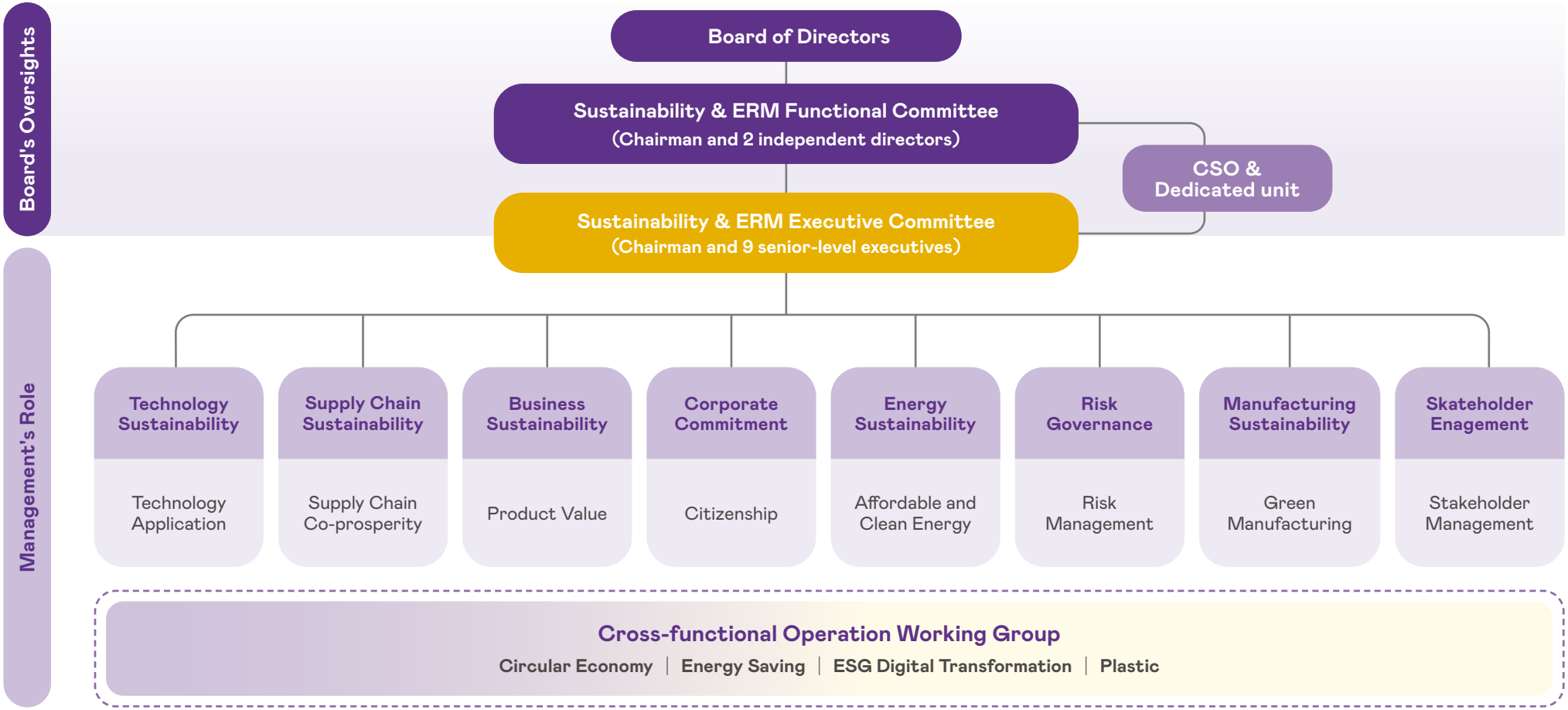
Source: AUO Corporation 2024 Sustainability Report

2.2 Management's Role on Nature

To advance AUO's sustainability vision and strategy, and to implement related plans and actions, AUO established the "Sustainability & ERM Executive Committee" under the Sustainability & ERM Functional Committee.The Chairman serves as the President of the Executive Committee, with senior-level executives acting as heads of various subcommittees. The Chief Sustainability Officer leads the Secretariat, which coordinates cross-departmental integration of strategic directions and resources (see Figure 3).

The committee convenes quarterly to discuss long-term strategies, review progress toward sustainability goals, and promote the implementation of AUO's sustainability initiatives. Each subcommittee holds monthly meetings to discuss ESG-related plans, set short- and mid-term targets, and regularly track execution results.

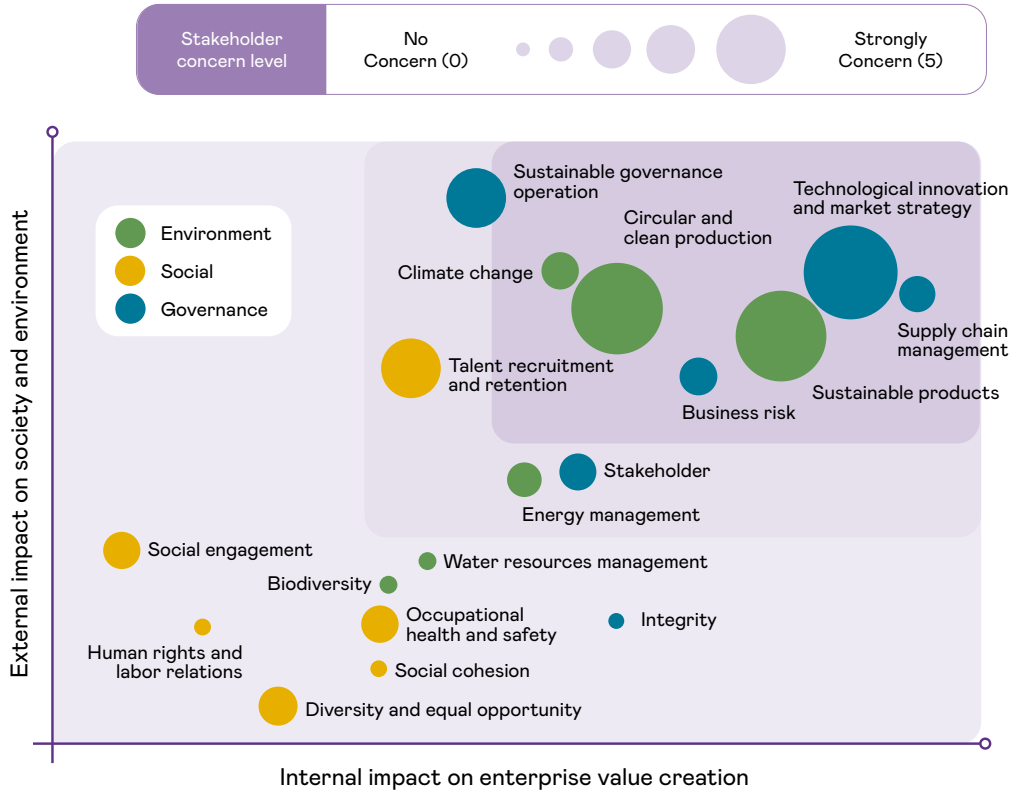
Figure 3 : AUO's Sustainability Governance Structure



2.3 Stakeholder Management in Nature Issues

AUO has integrated nature-related concerns and assessments into its ESG management system. Each year, the company evaluates stakeholders' concerns regarding ESG (Environmental, Social, and Governance) topics, the impact of these topics on business operations, and the influence of sustainability development on external economic, environmental, and social aspects.Based on these evaluations, AUO establishes a prioritized list of material topics. Among the identified material issues, nature-related topics—such as biodiversity, water resource management, and the promotion of circular and clean production—are included in AUO's ESG Materiality Matrix (see Figure 4) and are incorporated into its management framework.

Figure 4 : AUO's ESG Materiality Matrix



Source: AUO Corporation 2024 Sustainability Report

AUO recognizes the potential connection between nature and human rights issues. In evaluating and responding to nature-related dependencies, impacts, risks, and opportunities, the organization is also aware that nature-related impacts and dependencies may involve affected people, local communities, and other stakeholders. Echoing with the TNFD Recommended Disclosures on this, AUO has relevant human rights policy in place. We established the 'AUO Human Rights Policy' in 2006 (the management process shown in Figure 5), aligning with international standards such as 'UN Guiding Principles on Business and Human Rights', 'Global Sullivan Principles', 'Social Accountability 8000', 'Corporate Sustainability Due Diligence Directive,' and 'Responsible Business Alliance Code of Conduct.' AUO has implemented this policy to address both internal and external human rights issues, conducting regular due diligence to prevent potential human rights impacts from our business operations. For more information about AUO's human rights policy, please visit our Sustainability website.

Figure 5 : AUO's Human Rights Management Policy

Identification

Confirm material topics in human rights for the organization and conduct inventory of affected stakeholders.

Prevention

Conduct inventory of internal systems and define related policies to prevent human rights incidents.

Monitoring

Periodically evaluate human rights risks to devise various prevent human rights incidents.

Mitigation

Track policies and action plans to ensure the effectiveness of human rights management and mitigate the impact.

Source:AUO Corporation 2024 Sustainability Report

03 Strategy

3.1 Roadmap toward Nature Positive

AUO recognizes and responds to the importance of global biodiversity, ecosystems, and conservation of forests and the natural environment. In 2023, we published the "AUO Biodiversity, Ecosystems, and Zero-deforestation Policy" in response to the "Kunming-Montreal Global Biodiversity Framework" and the international community's call to halt biodiversity loss. The Policy outlines AUO's commitment to biodiversity, underpinned by a set of policy instruments include avoiding, reducing, and restoring the impact of our business operations, while promoting a transition toward nature-positive outcomes (see Figure 6). In addition, we announced a goal of achieving plastic neutrality by 2030, starting with our own operations and collaborating with value chain partners. Looking ahead, our longterm nature strategy aims to have a net positive impact on biodiversity by 2050.

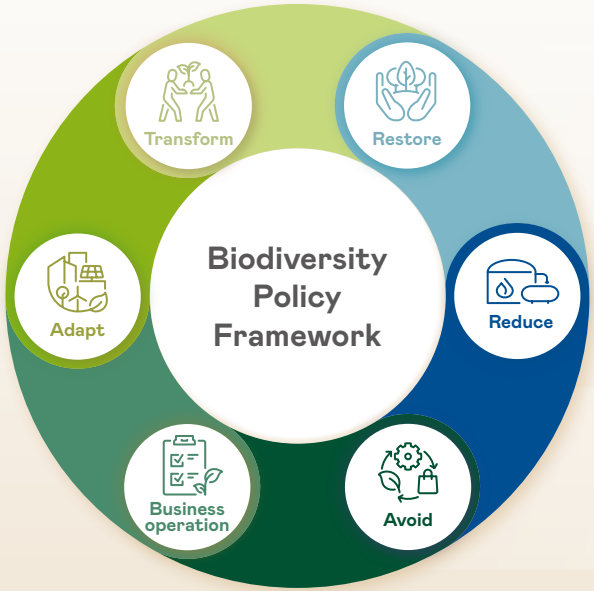
Figure 6 : AUO's Biodiversity Policy Framework

Transform
- Engage with suppliers on nature actions
- Promote environmental education

Adapt
- Adopting TNFD framework into the risk management system
- Participation in certification schemes such as LEED for green buildings

Disclosure
- Following international frameworks such as GRI, SBTN, and TNFD for disclosure in our sustainability report

Skateholder Enagement
- Actively engage with stakeholders including local communities



Restore
- Within AUO: Conduct on-site environmental restoration or off-site compensation at own photovoltaic sites
- Outside AUO: Promote tree planting and ecological conservation

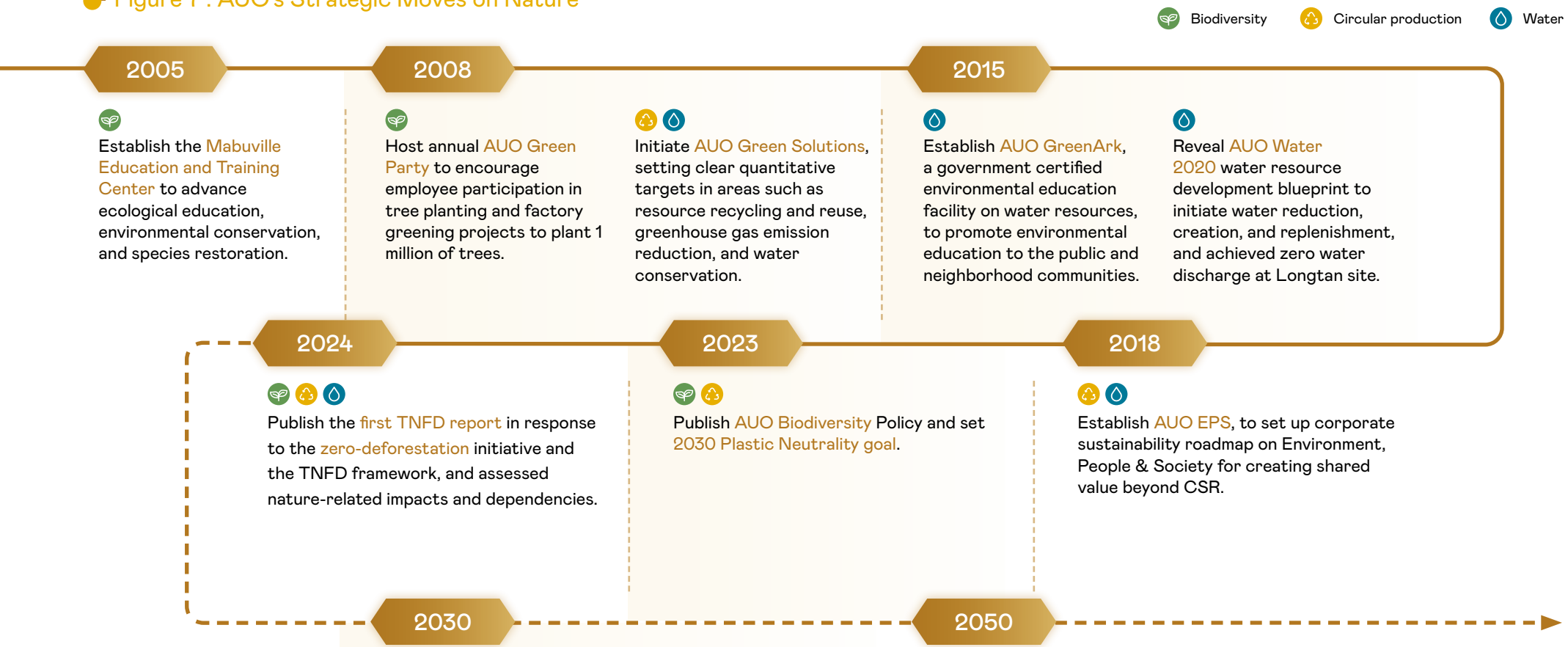
Reduce
- Comply with legal requirements on pollution control and wastewater discharge

Avoid
- Raw material: Implement green procurement process
- Operation: Conduct environmental impact assessments
- Products: Comply with regulatory requirements and actively follow green product labels, including EPEAT, WEEE, and RoHS etc.

3.2 AUO's Strategy on Nature

AUO has long been committed to nature-related strategic actions. Figure 7 illustrates key milestones in AUO's nature strategy, highlighting efforts in areas such as biodiversity, water resource management, and circular production. Among these, biodiversity and water resources represent the primary areas of impact and dependency between AUO's manufacturing activities and nature, while circular production serves as one of the key approaches to mitigating environmental impact.

Figure 7 : AUO's Strategic Moves on Nature



04 Risk & Impact Management

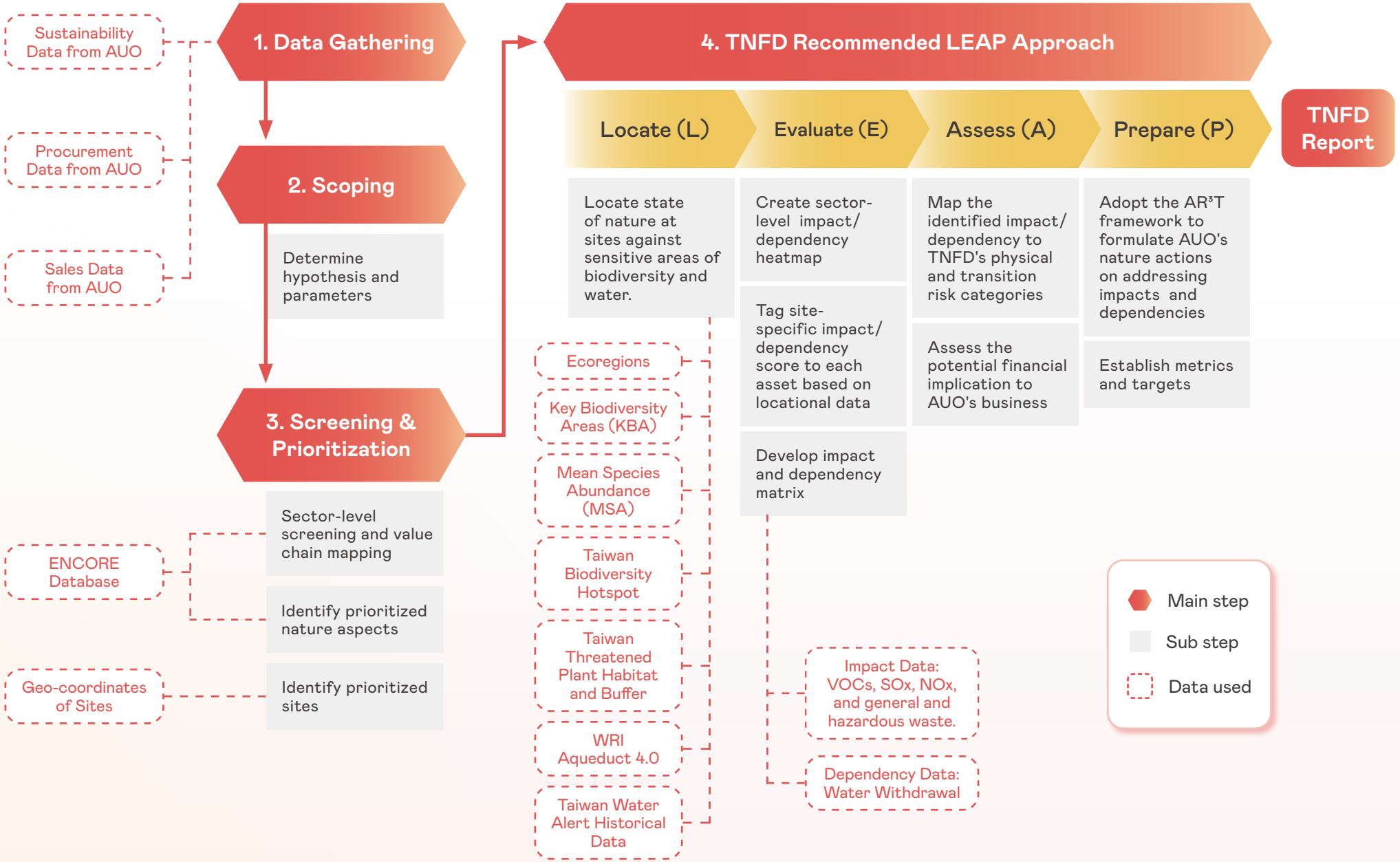
4.1 AUO's Overall Approach in this TNFD Exercise

In order to identify, evaluate and assess the nature-related dependencies, impacts, risks, and opportunities in relation to AUO, AUO has adopted an overarching approach to review the nature-related issues that are relevant to AUO's own operations and value chain.The overall approach covers internal data gathering with different AUO executive and operations departments, for the purpose of scoping, screening and prioritization of material nature-related locations and aspects. Subsequently, the identification and assessment of nature-related impacts, dependencies, risks and opportunities are conducted. Lastly, actions in responding to nature-related impacts and dependencies are framed with the AR³T framework, and metrics are determined for action tracking. The findings and implications of the TNFD exercise are disclosed in this report and to be communicated externally and internally, including with the board and management, so as to inform AUO's future decisions in nature-related governance, strategies and policies. The overall approach is presented in Figure 8 below.

4.1.1 TNFD's Recommended LEAP Approach

In accordance with TNFD recommendations, AUO adopts the 'LEAP approach' (Locate, Evaluate, Assess, Prepare), a four-phase integrated assessment approach designed by TNFD, as the method to identify and assess our nature-related dependencies, impacts, risks, and opportunities in the risk and impact management processes.

Figure 8 : AUO's Overarching Approach to Review Nature-Related Issues



4.2 Screening and Prioritization

As a key part of AUO's nature strategy, we have adopted the TNFD v1.0 framework released in September 2023, as well as the LEAP methodology, as tools to identify, evaluate, and assess nature-related dependencies and impacts. Based on this methodology, when assessing the impacts and dependencies of business models and strategies, TNFD recommends to first screen both the own assets and value chain components, and then prioritize those with potentially higher impacts and dependencies related to nature. Considering assessment efficiency and data availability, priority should be given to the nature aspects and sites with potentially higher nature-related impacts and dependencies. As such, AUO has adopted the prioritization on nature aspects and locations for identifying and evaluating impacts and dependencies, as further discussed below.

4.2.1 Prioritized Nature Aspects

For selecting the prioritized nature aspects to evaluate, AUO uses the ENCORE tool , updated in 2024, to create a sector-level heatmap for our business and value chain. ENCORE is a tool developed by UN Environmental Program (UNEP) aims at helping businesses to take their first steps towards understanding their dependencies and impacts on nature. ENCORE provides materiality of impacts and dependencies on natural capital for sectors or sub-industries, which is informed by sector research and expert interviews, allowing users to understand which areas might be most relevant for further analysis.

In the value chain assessment, AUO is primarily categorized under the electronic components and circuit board manufacturing industry, while BHTC belongs to the automotive parts manufacturing sector. Mabuville serves as AUO's education and training center and also provides accommodation services for AUO Group employees attending meetings, involving industries such as short-term accommodation and technical and vocational secondary education services.[1]

In the upstream value chain, the main sectors include electronic components and circuit boards, computers and peripheral equipment, glass and glass products, basic chemical materials, and plastic products manufacturing. The downstream value chain primarily covers industries such as computers and peripheral equipment, consumer electronics, and electronic components and circuit board manufacturing.[2]

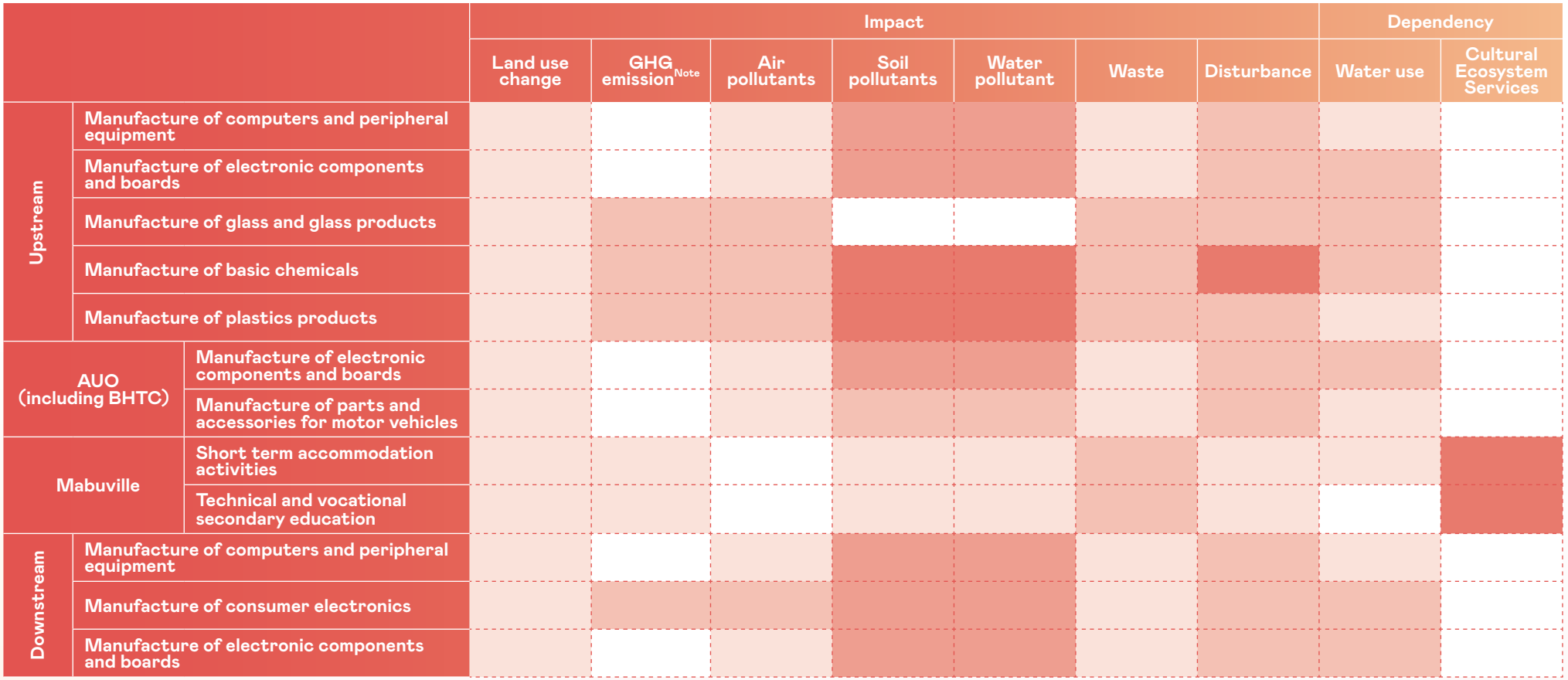
According to the ENCORE results, we further consider the characteristics of the actual production processes to correspond ENCORE's sectorial information to AUO's own operation and value chain. The results are illustrated in a value chain heatmap on nature impact and dependency in Figure 9 below. In general, AUO's operations, as well as those of its suppliers and customers, have higher materiality in terms of impacts on nature induced by pollutants and wastes. Although land-use change, greenhouse gas (GHG) emissions and disturbances are also shown on the heatmap, they are not included as prioritized aspects in this report for the following reasons :

The prioritization of nature-related factors depends on the relative operational impact across industries. For AUO's operations and value chain, land use change is considered to have low impact and materiality, and therefore is not prioritized in this report. Greenhouse gas (GHG) emissions present a moderate potential impact on nature in certain parts of the value chain; however, GHG impacts are not location-specific and have global implications rather than being confined to the surrounding areas of a site. This characteristic makes GHG emissions less compatible with TNFD's location-based analytical framework. Nevertheless, AUO remains committed to net-zero efforts. For more information on AUO's overall carbon footprint and GHG emissions, please refer to AUO's TCFD report. Regarding disturbance factors, although ENCORE identifies noise pollution as a moderate potential impact for this industry category, it is not considered a significant issue due to the characteristics of AUO's manufacturing processes, and thus is not emphasized in this report.

AUO's dependence on nature across its value chain is primarily reflected in the use of water resources. This includes water required for manufacturing and upstream production activities, as well as water usage for the operations of Mabuville. In addition, Mabuville relies on cultural ecosystem services provided by natural ecosystems—such as recreation, environmental education, and landscape aesthetics—which are experiential and non-material in nature, and differ from the typical nature dependencies seen in manufacturing industries. In this report's analysis, considering the distinct characteristics of the evaluated sectors (spanning manufacturing and hospitality/education), AUO identifies "pollutants" and "waste" as priority nature-related impact items, and "water withdrawal" as a priority nature-related dependency item. Based on the performance of AUO's assets and value chain, scores for nature-related impacts and dependencies are established.

[1] The technical and vocational secondary education services industry includes activities such as corporate training and professional skills development.
[2] Suppliers in the electronic components and circuit board manufacturing industry include IC design companies and distributors.

Figure 9 : Value Chain Heatmap on Nature Impact and Dependency



ENCORE impact/dependency categories		Relevant aspects on AUO's value chain
Impact	Air/Soil/Water pollutants	· Pollutants generated by AUO's production activities and value chain
	Waste	· Waste generated by AUO's production activities and value chain · End-of-life waste from AUO's product lifecycle
Dependency	Water use	· Water usage and reliance of AUO's production processes and value chain

4.2.2 Prioritized Locations

Considering AUO's various business activities, production operations are characterized by higher resource consumption and the generation of potential pollutants and waste. These features make them more likely to result in nature-related impacts and dependencies. Therefore, in this report, AUO has selected its global production sites (including BHTC facilities) as priority locations for analysis and assessment within the owned asset category. In addition, this report includes Mabuville, an asset with potentially high natural and biodiversity value. Other asset types with relatively low nature-related impacts and dependencies—such as office —are excluded from the scope of this assessment. In total, 17 priority assets have been selected for evaluation.

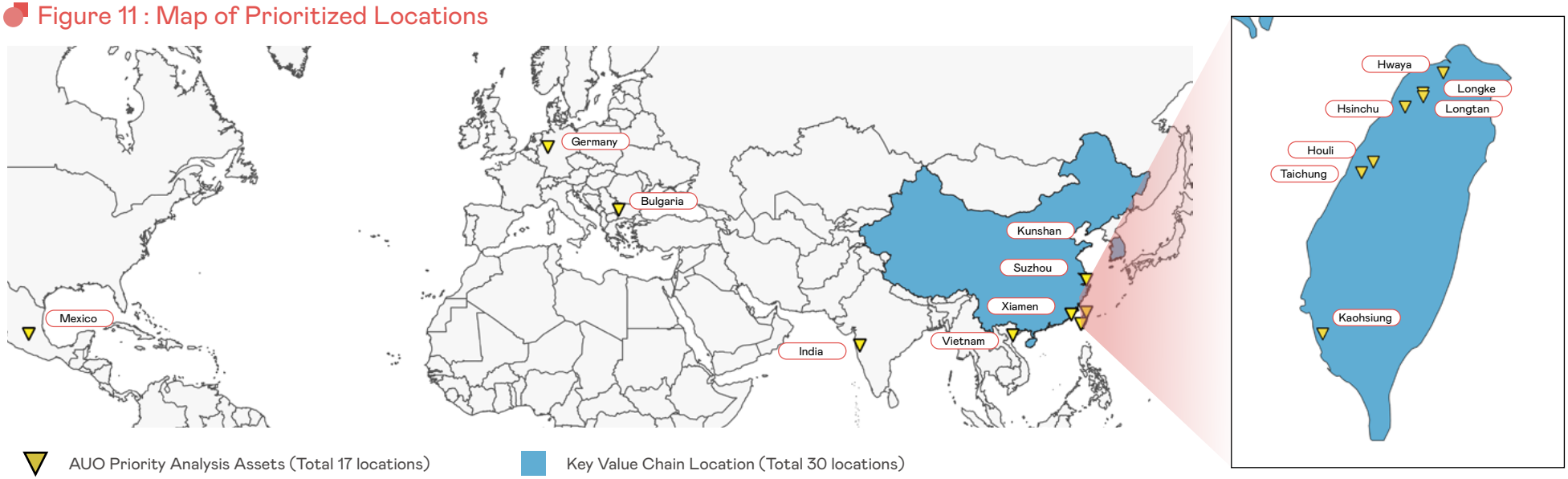
Regarding the value chain, based on a comprehensive consideration of data coverage and accessibility, this year's report includes the locations of approximately the top two-thirds of upstream suppliers (accounting for 66% of annual procurement value), totaling 30 suppliers, as well as the top 46% of downstream customers (based on annual sales value). Overall, the key operational locations of AUO and its value chain covered in this identification and assessment are illustrated in Figure 10 and Figure 11.

Figure 10 : Prioritized Locations for 2024 Assessment

Prioritized locations for 2024 assessment

Own operation sites	Upstream locations	Downstream locations
A total of 17 assets, including AUO and BHTC's global production sites, as well as AUO's education and training center—Mabuville.	Based on procurement value, the locations of the top 30 suppliers account for approximately two-thirds (66%) of the total annual procurement amount.	Considering the confidentiality of customer information, only sector-level hotspot analysis was conducted for the downstream value chain.

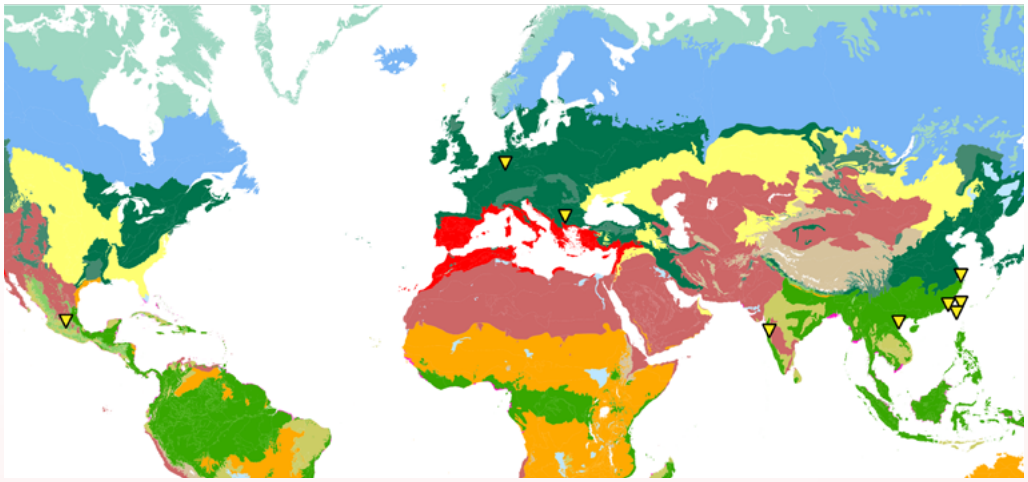
Figure 11 : Map of Prioritized Locations



4.3 Locate (L)

The objective of the Locate phase of LEAP is to filter and prioritize potential nature-related issues by screening the 'state of nature' at the sites and the business activities 'interface with nature'. To identify the information, we overlaid the geo-coordinates of the sites of assessment with four nature data layers of (1) type of biome, (2) ecological importance, (3) ecological integrity, and (4) water stress (Figure 12).In addition, for locations in Taiwan, biodiversity hotspot layers from the Taiwan Forestry Bureau and buffer zones of critical habitats for threatened plant species identified in the Red List by the Biodiversity Research Institute were also incorporated. The results provided data indicating the 'state of nature' at each site of the analysis, which was then used in the Evaluate phase of LEAP.

Figure 12 : Map of Biome



- AUO Priority Analysis Assets
- Boreal Forests/Taiga
- Deserts & Xeric Shrublands
- Flooded Grasslands & Savannas
- Mangroves
- Mediterranean Forests, Woodlands & Scrub
- Montane Grasslands & Shrublands
- Temperate Broadleaf & Mixed Forests
- Temperate Conifer Forests
- Temperate Conifer Forests
- Tropical & Subtropical Coniferous Forests
- Tropical & Subtropical Dry Broadleaf Forests
- Tropical & Subtropical Grasslands, Savannas & Shrublands
- Tropical & Subtropical Moist Broadleaf Forests
- Tundra

Figure 13 : Distribution of Ecological Communities across AUO's Prioritized Assessment Locations

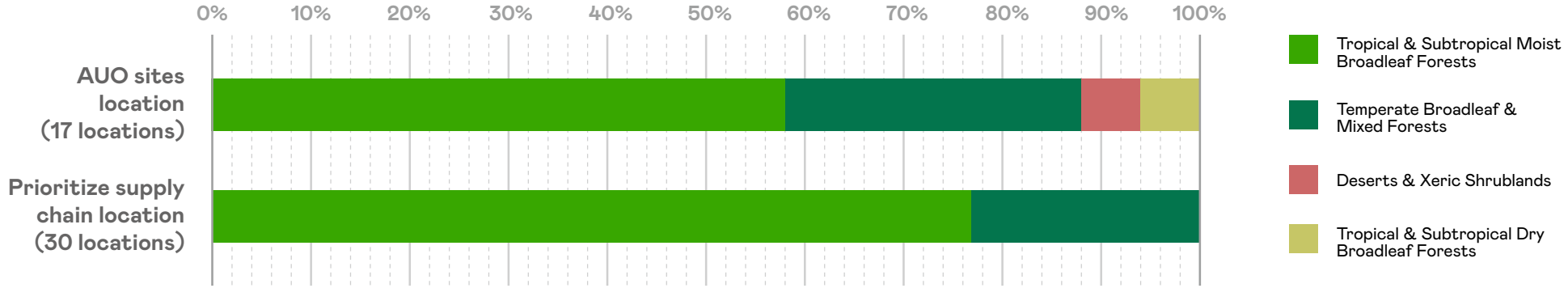
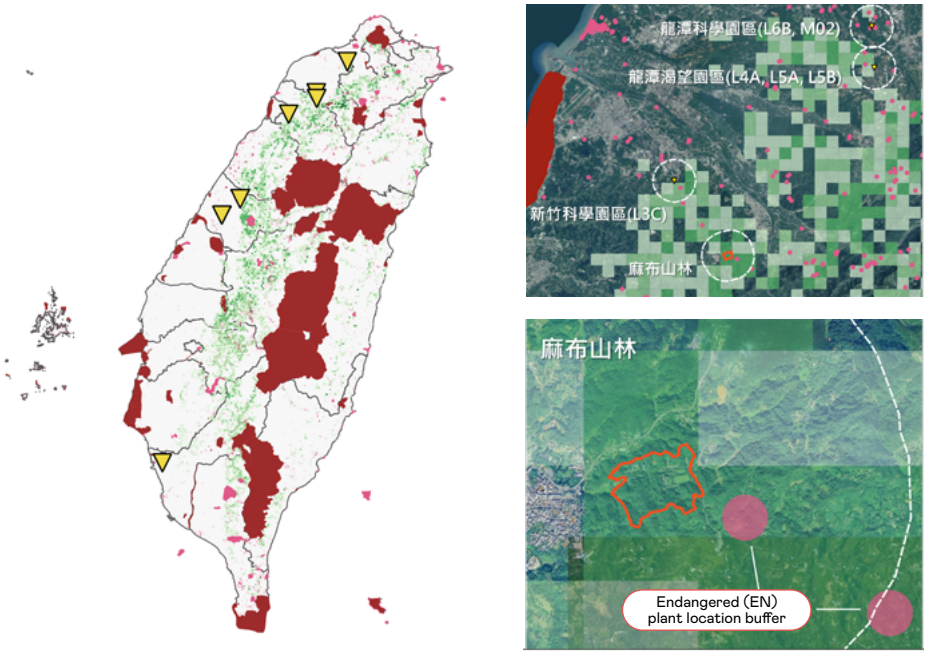


Figure 14 : Biodiversity Importance Analysis Illustration



- Key Biodiversity Areas
- Taiwan Biodiversity Hotspots
- Taiwan Habitats and Buffer Zones of Threatened Plants in Taiwan
- AUO Priority Analysis Assets
- Mabuville
- 2 km range

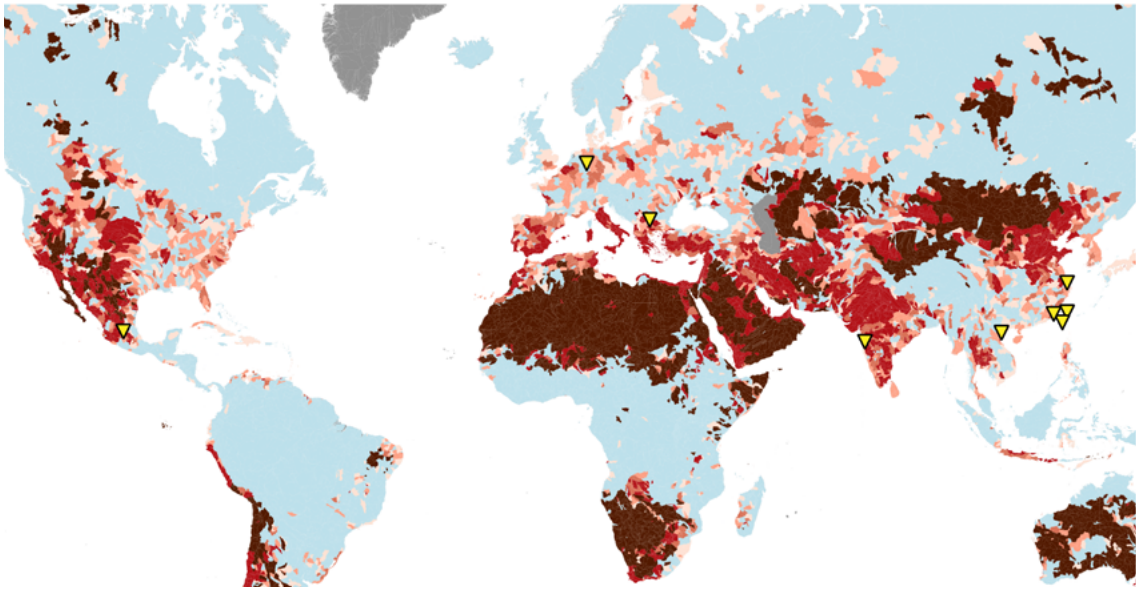
Figure 15 : Biodiversity Integrity Analysis Illustration

- AUO Priority Analysis Assets
- Mabuville
- 2 km range

Mean Species Abundance

High — Low

Figure 16 : Map of Water Stress

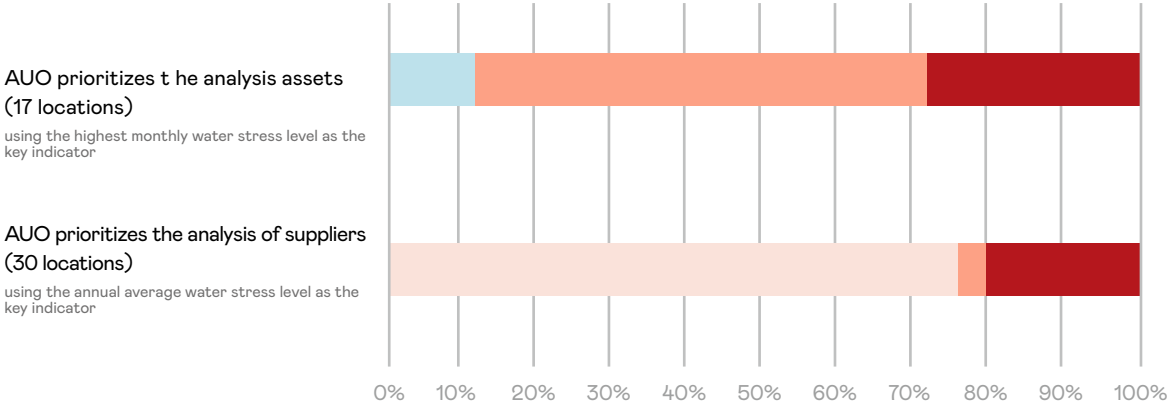


AUO Priority Analysis Assets

WRI Aqueduct 4.0 Baseline Water Stress

- Low
- Low-medium
- Medium-high
- High
- Extremely high
- Arid and low water use
- No data

Figure 17 : Distribution of Water Stress across AUO's Prioritized Assessment Locations

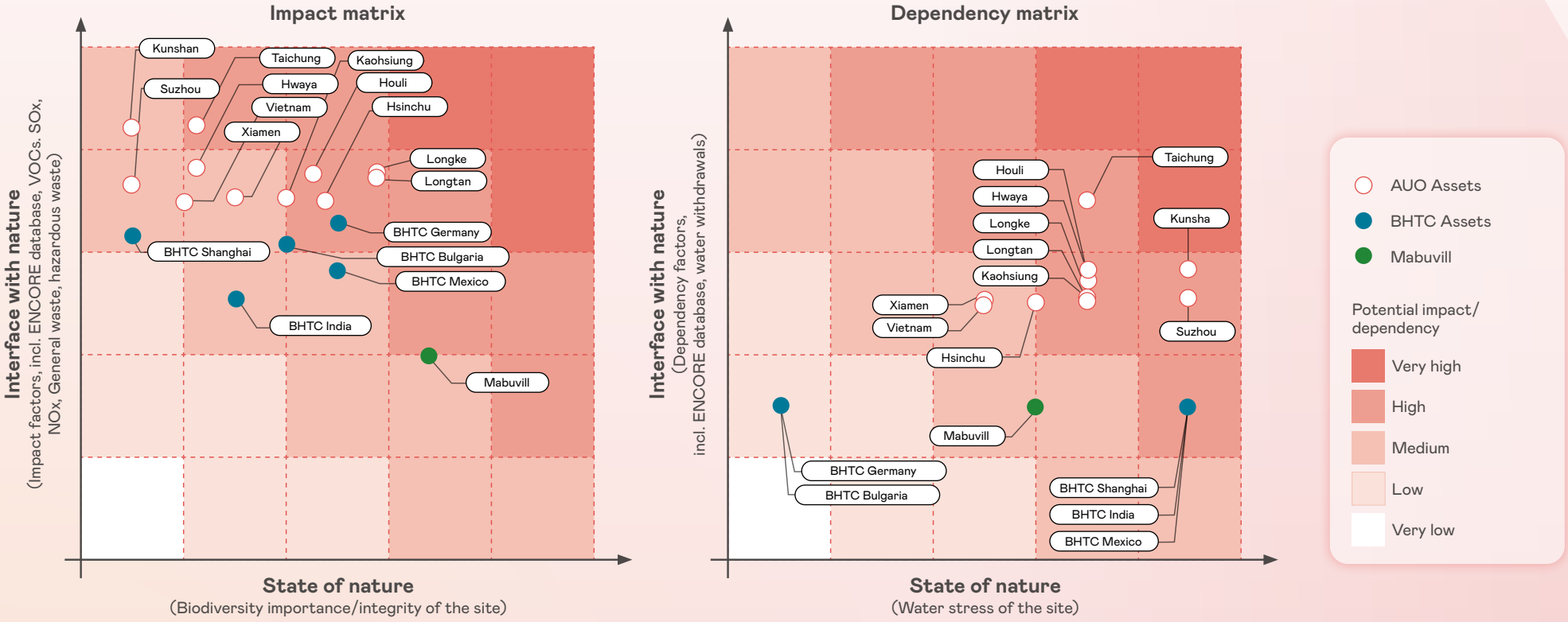


- Low
- Low-medium
- Medium-high
- High
- Extremely high

4.4 Evaluate (E)

After completing the natural state mapping of its own asset locations and key value chain sites, AUO adopted a three-step identification process to further assess the potential nature-related impacts and dependencies of these locations. First, AUO utilized industry-level impact and dependency hotspot maps constructed based on ENCORE to help prioritize relevant natural elements for manufacturing activities (as shown in Figure 9). Using information from four industry sectors—electronic components and circuit board manufacturing, automotive parts manufacturing, short-term accommodation, and technical and vocational secondary education services—AUO established basic impact and dependency scores for each asset. Next, AUO incorporated site-level emission data (including factors such as volatile organic compounds (VOCs), sulfur oxides (SOx), nitrogen oxides (NOx), general and hazardous waste, and water withdrawal) into an asset tagging model. This model was used to define each location's relationship with specific impact and dependency factors—its "nature interface." Finally, AUO standardized the asset tagging results and integrated them with the outcomes from the "Locate" phase to create a nature impact and dependency matrix for AUO's production sites and major supply chain categories (Figure 18 and 19). This matrix illustrates the levels of impact and dependency for each analytical unit and helps identify priority sites within AUO and its value chain that warrant attention regarding nature-related issues.

Figure 18 : Impact and Dependency Matrix of AUO's Fabs

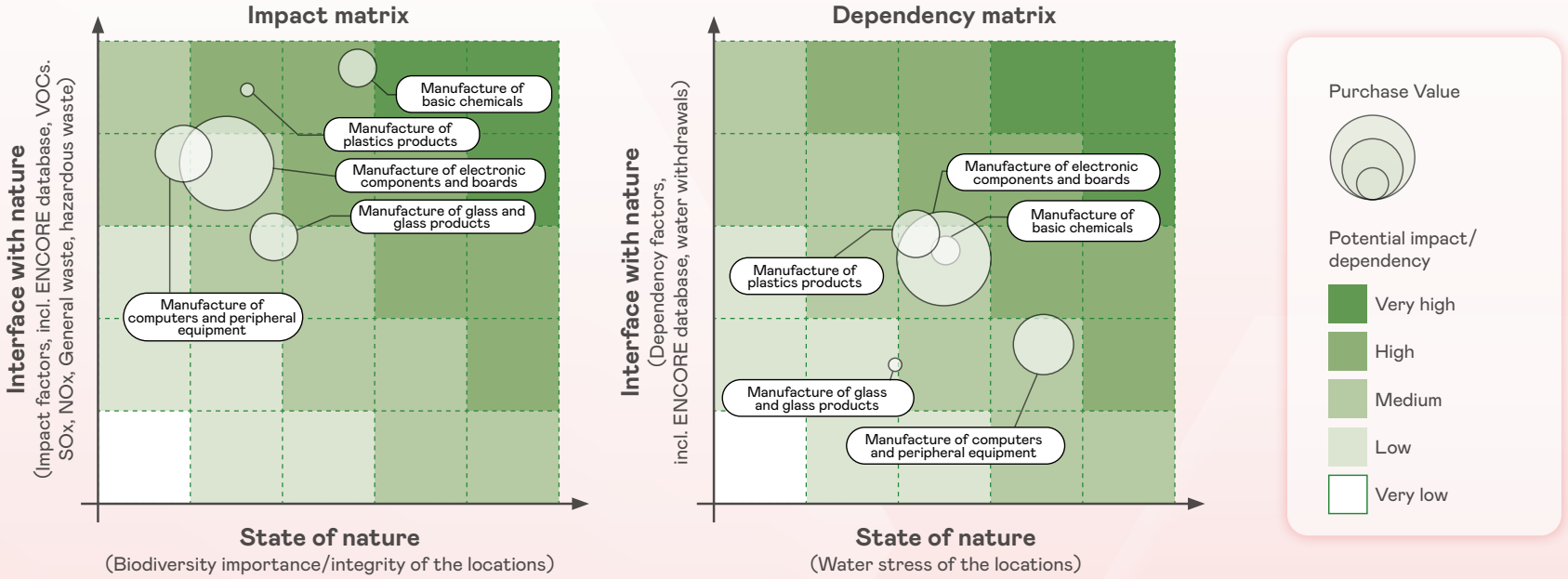


In the impact matrix for AUO's own assets, the company evaluates the potential nature-related impact of each site across two dimensions. The X-axis represents the natural condition of each site and its surrounding area. Higher values indicate greater biodiversity importance or ecological integrity, suggesting higher sensitivity to potential nature-related impacts. To assess natural conditions, AUO considers two key indicators: Proximity to Key Biodiversity Areas (KBA). For sites located in Taiwan, two additional layers are included as indicators of ecological importance—biodiversity hotspots (animals) and buffer zones around threatened plant distribution sites. And, Mean Species Abundance (MSA) within a 2-kilometer radius of each site, used as an indicator of ecological integrity. The Y-axis reflects each site's interface with nature, revealing the potential impact of operational activities on the environment. AUO uses sector-level ratings from the ENCORE database as a baseline, and further conducts internal benchmarking within the same industry category based on actual site-level data—such as pollutants, waste, and other relevant metrics—to calculate and normalize the impact scores. By combining the results from both axes, the impact matrix categorizes each site into one of five qualitative levels of potential impact: Very High, High, Medium, Low, and Very Low, arranged from the top right to the bottom left of the matrix.

On the other hand, in the dependency matrix, AUO evaluates each site's reliance on water resources. The X-axis refers to the monthly environmental water stress ratings from the WRI Aqueduct 4.0 model, selecting the month with the highest water stress as the evaluation indicator. This is further refined using historical water condition alert data from various counties and cities in Taiwan to adjust for regional differences, thereby constructing a localized environmental water resource level for each site. The Y-axis is based on sector-level water dependency ratings from the ENCORE database, supplemented by actual water withdrawal data from each site to perform internal benchmarking and calibration.

The analysis results from these two matrices indicate that, in terms of nature-related impact, most of AUO's assets fall into the medium potential impact category, considering both the natural conditions surrounding each site and the interface between production activities and nature. Some assets—specifically Longke, Longtan, Houli, Hsinchu, and BHTC Germany—are identified as having relatively high potential impact in AUO's priority site analysis due to the relatively high biodiversity importance and ecological integrity of their surrounding areas. Additionally, Kaohsiung, BHTC Bulgaria, and Mabuville are also assessed as having relatively medium to high potential impact. In terms of dependency, most assets are categorized as having medium to high potential dependency on water resources, indicating both high water demand and relatively high water stress in their respective locations. A few assets, such as BHTC Germany and BHTC Bulgaria, are classified as having low potential water dependency.

Figure 19 : Impact and Dependency Matrix of Supply Chain



For identifying nature-related impact and dependency within the supply chain, AUO adopts a similar analytical approach. Supplier site locations and emission data are used, and suppliers within the same industry category are grouped together. The scores for natural condition and interface with nature for each group are weighted based on the proportion of procurement value from individual suppliers, reflecting AUO's purchasing behavior and its corresponding impact and dependency across the upstream value chain.

The analysis results show that, considering the locations of major suppliers and the characteristics of their respective industries, the basic chemical materials manufacturing supply chain exhibits a higher potential nature-related impact compared to other sectors, followed by the plastic products manufacturing sector—both falling into the high potential impact category. The other three categories—electronic components and circuit boards, computers and peripherals, and glass and glass products—are assessed as having medium potential impact. Notably, although the latter three categories account for a higher proportion of AUO's procurement, their potential impact remains at a medium level. In terms of dependency, all supplier categories fall within the medium potential dependency on water resources level. Among them, the plastic products manufacturing sector shows relatively lower dependency, indicating that the locations of AUO's supply chain generally face moderate water stress and have a moderate level of reliance on water resources.

4.5 Assess (A)

Translating an evaluation of nature-related dependencies and impacts into an assessment of financial risks and opportunities is currently a challenging area for many organizations, in particular quantitatively identifying all points of contact with nature and translating biophysical metrics into financial values. Nonetheless, we have made best efforts to conduct a preliminary exercise in assessing the potential financial implications of the nature risks and opportunities to AUO, enabled by the TNFD Guidance on the Identification and Assessment of Nature-related Issues.

According to TNFD, the Assess process is to identify and prioritize the nature-related risks and opportunities to the organization stemming from their identified dependencies and impacts on nature. The identification of these risks and opportunities requires the adaptation of existing risk management processes and incorporation into part of the materiality assessment of the corporation to ensure these new risks are fully integrated.

The assessment started with identification of nature-related risks and opportunities associated with the findings of the 'Evaluate' phase on the dependencies and impacts of our own operation and value chains on nature (i.e., the potential impact induced by pollutants on biodiversity, and the dependency on water resource). The impact and dependency were than mapped with the nature-related physical and transition risk categories recommended by TNFD by identifying the connections of the particular nature-related impact/dependency to AUO's business operation. Potential financial implications on such risk events can then be identified accordingly. For example, the dependency on water resources of our own operation and the supply chain makes us prone to be affected by water shortage events that can cause interruptions on the production. When water shortage occur, AUO would have to seek for costly alternative water supply, increasing the operating expenses, or to drop production which decrease the revenue.

On the other hand, although the impacts of our operations and value chains in regard to pollutants and biodiversity are unlikely to pose physical risks to our business, they can affect our sales revenue and company valuation if relevant stakeholders urge for products with a lower nature impact. These are transition risks expected to rise in the nature-positive trends. Other transition risks potentially arising from the impact on pollutants and biodiversity include the emerging requirements for nature-related disclosures and supply chain management, more stringent regulations on nature-related issues and actions that create positive/negative changes in sentiment towards the company. Finally, we identified a business performance opportunity from the increase in resource efficiency and material circularity of our production process. As we have clear targets for water use efficiency and waste reduction through improved recycling (listed in Section 5), this can result in cost savings as our demand for water, waste treatment and raw materials reduce.

The risk and opportunity assessment results are presented in Figure 20 below:

Figure 20 : AUO's Nature-Related Risk and Opportunities

Dependencies / Impacts	Category & Driver	Description of Risk / Opportunity	Financial Implication
Dependencies on Water Resources	Physical risk: Water shortage	Water shortage leads to production interruptions for own operation	OpEx ↑ Revenue ↓
		Water shortage leads to supply chain disruptions	OpEx ↑ Revenue ↓
Impact induced by pollutants / on biodiversity	Transition risk: Market	Customers demand products or processes with lower nature impact	Revenue ↓
	Transition opportunity: Market	Market and shareholders demand products or processes with lower nature impact	Valuation ↑
Dependencies on Water Resources & Impact induced by pollutants / on biodiversity	Transition opportunity: Resource efficiency	Increase resource efficiency or the usage of circular materials in production process	OpEx ↓
Impact induced by pollutants / on biodiversity	Transition risk: Policy	Emerging requirements for nature-related disclosures or supply chain management	OpEx ↑
Impact induced by pollutants / on biodiversity	Transition risk: Liability	More stringent regulations on nature-related issue	OpEx ↑
Impact induced by pollutants / on biodiversity	Transition/opportunity: Reputational Capital	Actions that create positive / negative changes in sentiment towards the company due to its contributions to / impacts on biodiversity	Valuation ↓↑

Reference: TNFD Nature-related Risk and Opportunity Registers, November 2022

4.6 Prepare (P)

To address the nature-related dependencies, impacts, risks, and opportunities, AUO has been implementing various measures within our business operations and taking actions to engage and work together with wider stakeholders. To better organize and plan our nature-related measures and actions, AUO adopts the 'AR³T' framework introduced by the Science-based Targets Network (SBTN) (Figure 21). Based on the mitigation and conservation hierarchy, the framework provides a guidance for the company to plan and arrange the nature actions to (1) avoid future impacts, (2) reduce current impacts, (3) restore / regenerate ecosystems, and (4) transform the systems.

Source:Science-based Targets for Nature: Initial Guidance for Business, September 2020

The actions that AUO has adopted under AR³T Framework is presented in Figure 22 below. To track and monitor the progress of the mitigation measures AUO has been implementing, a set of quantitative metrics and targets were established in Section 5. Meanwhile, further details of our broader nature-related actions are specified in Section 6.

Figure 21 : AR³T Framework

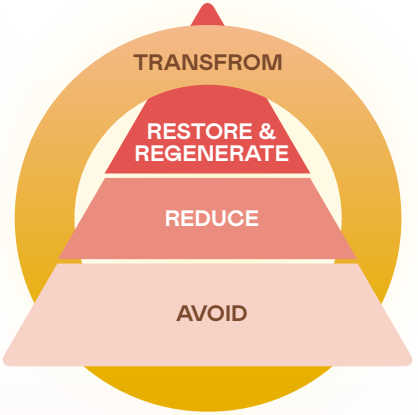


Figure 22 : AUO's Actions Under AR³T Framework

AR³T Framework	Nature topic	AUO's Action	Engagement Partner		
			Direct op.	Value chain	Stake holder
1. Avoid	Air/water pollutants	Implementing and improving pollutant processing technologies	●		
2. Reduce	Water usage	· Reducing water consumption of manufacturing process · Optimizing water recycling efficiency · Increasing the use of reclaimed wastewater	●		
	Waste (industrial)	Reducing non-reusable waste generated from production	●		
	Waste (recycle)	· Promoting the usage of circular and recycled materials in AUO's production · Increasing the suppliers of recycled materials	●	●	
	Waste (recycle)	In collaboration with Dawoko, Mabuville transforms residual forest materials from thinning and pruning into valuable resources. Through sorting and carbonization processes, these materials are converted into wood vinegar and biochar, which are then used to produce eco-friendly personal care and cleaning products—promoting resource regeneration and circular sustainability.	●		●
	Waste (plastic)	Promoting the Plastic Neutrality Initiative and cooperate with value chain partners	●	●	
3. Restore & Regenerate	Biodiversity integrity	· Environmental monitoring round the Longtan site and the Xiaoli River · Removing invasive plants along the Xiaoli River together with local stakeholders	●		●
	Biodiversity integrity	By adhering to the principles of low-density development and forest restoration, Mabuville preserves its original forest landscape, maintaining critical habitats for various second- and third-grade protected species, including mammals, birds, insects, and amphibians.	●		●
4. Transform	Awareness	· AUO Green Party – promoting tree planting and awareness on deforestation and forest conservation · AUO Ocean Party – promoting beach cleaning and awareness on marine waste	●		●
	Education	AUO GreenArk - promoting environmental education on water resource to the public and local communities	●		●
		In collaboration with certified professional ecological instructors, Mabuville has designed a variety of nature education programs, such as "Eco Magnifier", which explores the ecological features of each season, and "Night in the Black Forest", which introduces nocturnal animals through guided ecological interpretation.	●		●

05 Metrics and Targets

Having defined its plan to respond to nature-related dependencies, impacts, risks and opportunities, the TNFD recommends organizations to determine metrics and set targets to trace the implementation of the plan. The aim of the metrics is to measure progress against their actions, policies and plans to respond to nature-related issues. The set of response metrics could be draw from the factors used in the dependency and impact assessment (the Evaluate phase of LEAP) and the risk and opportunity assessment (the Assess phase of LEAP).

AUO has set the following targets for 2025 in managing nature-related impacts and dependencies. The impact-related and dependency-related metrics and targets are illustrated in Figure 23 and Figure 24 below.

Figure 23 : Impact-Related Metrics and Targets

Category	Goal	Metrics	2025 Target
 Air Pollutants	1% reduction per year compared to 2020	Volatile Organic Compounds (VOCs) emission per year (ton)	< 140.65 tons
 Waste	Reducing non-reusable waste from production	Total volume of non-reusable waste (tons)	< 8,500 tons
		Total volume of non-reusable hazardous waste (tons)	< 3,300 tons
	Promoting the usage of circular and recycled materials with third-party certificate	Usage of recycled materials on specializing products (%) *Calculated by the weight of raw materials	30%
	Increasing the number of suppliers for recycled materials	Number of suppliers for recycled materials	64
	Cooperating with certified suppliers for recycled materials	Percentage of certified circular economy suppliers for recycled materials (%)	> 90%

Figure 24 : Dependency-Related Metrics and Targets

Category	Goal	Metrics	2025 Target
 Water usage	Reducing water consumption of manufacturing process	Total water consumption (cubic meter per day, CMD)	< 64,800 CMD
	Increasing the use of reclaimed wastewater in the production process	Recycled water substitution rate (%)	22.4%
	Optimizing the water recycling efficiency	Production water recycling rate (%)	94.5%

06 Further Nature-Related Initiatives and Opportunities

To further contribute to the goal of net positive impact on biodiversity by 2050, and to cultivate the concept of managing nature-related risks as a business opportunity in the long run, AUO has additionally committed to the following:

6.1 Plastic Neutrality

Research reports highlight plastic pollution as a critical threat to biodiversity. In response, AUO is committed to reducing plastic usage and aims to raise industry-wide awareness to plastic issues. We started the initiative by assessing our plastic use in the production processes as well as office activities. We set 2023 as the baseline year and aim for achieving plastic neutrality by 2030. AUO has adopted the '3R+1' strategy (replace, reduce, replace/reuse, and rethink), and formed a cross-functional plastic task force to coordinate the efforts.

We also promote this initiative to our value chain and announced this plastic neutrality goals at the annual Supplier CSR Conference. By cutting down on single-use plastics and promoting the use of recycled and reusable plastics in the production processes, AUO collaborates with upstream and downstream partners to recycle waste plastics into our own products.

Figure 25 : AUO Works with Our Value Chain to Promote Plastic Neutrality

2024 Plastic Neutrality Accomplishments

Supplier Packaging Materials	Production and Manufacturing	Plastic Packaging for Shipping	Requisition of Indirect Materials for Supplier Packaging and Production & Manufacturing	Plastic Packaging for Shipping
Recycled Amount	Waste reduction for Indirect Materials	Amount of Recycled Direct Materials	Amount of Recycled Material Introduced	Amount of Recycled Direct Material Introduced
13,364 tons	**465.6 tons**	**1,880.97 tons**	**91 tons**	**169.16 tons**

6.2 Invasive Species Removal Plan

AUO values the environment surrounding our sites and has been actively involved in restoring and conserving the surrounding areas with high ecosystem integrity. Our Longtan site serves as a good example. We have long been paying attention to the water quality and ecology of the Xiaoli River near our Longtan site. After achieving zero wastewater discharge in 2015, the subsequent monitoring activities showed an invasion of Mikania micrantha in the area. Mikania micrantha is a plant known for its vigorous growth which would overtake and kill nearby trees. As such, it is commonly referred to as the 'green cancer' and listed among Taiwan's top ten invasive plants.

In 2023, AUO launched a five-year Mikania Control Plan. In 2024, AUO partnered with the Taoyuan City Department of Agriculture, the Hsinchu Branch of the Forestry and Nature Conservation Agency, as well as local communities and placemaking organizations, to co-host a vine removal and stream protection initiative, and aim to reduce its coverage by 30% by 2027. Additionally, AUO collaborated with naturalist consultants to conduct a 3.2 km ecological survey along the Xiaoli River, identifying the spread and distribution of Mikania micrantha. The findings were shared with the Taoyuan City Department of Agriculture to coordinate joint eradication efforts. A total of 1,560 kg of the invasive vine was removed to help restore local biodiversity and protect the surrounding natural habitat.

Figure 26 : 2024 AUO Coroperates with Local Communities to Remove 1,560Kg of Invasive Species along the Xiaoli River

6.3 AUO Ocean Party

Since 2008, AUO has organized the Green Party initiative, launching tree planting campaigns to mobilize employees, their families, volunteers, suppliers, and local communities to promote tree planting efforts.Starting in 2020, AUO expanded this action by collaborating with the Forestry and Nature Conservation Agency, engaging in forest conservation in areas such as Houlung, Qingshui, and Yujing.

Meanwhile, in response to the marine waste problems, AUO has initiated the Ocean Party beach cleaning action since 2022.As of 2024, a total of nine cleanup events have been completed, covering locations across Taoyuan, Miaoli, and Taichung, with a cumulative removal of 6,686 kilograms of marine debris.

Figure 27 : AUO's Ocean Party Beach Cleaning Initiative to Remove Marine Waste

6.4 Mabuville

Located in Beipu, Hsinchu, Mabuville 麻布山林 is an educational training center established by AUO in 2005. Covering an area of 33 hectares, the site includes 23 hectares of preserved natural forest and 10 hectares of low-density developed activity space. Guided by the principles of low-density development and forest restoration, the park is dedicated to minimizing human disturbance while actively promoting the restoration of native Taiwanese plant species and habitat conservation.

Mabuville serves not only as a venue for AUO's internal team training and meetings, but also as a key site for implementing the company's three major environmental action strategies: tree planting and protection, management of invasive species, and full-cycle forest sustainability. In addition, the park regularly hosts activities such as ecological tours, vine removal campaigns, and sustainability markets, inviting employees, suppliers, local communities, and social welfare organizations to participate and deepen their understanding and practice of biodiversity and sustainable living.

Through Mabuville, AUO demonstrates its proactive response to the Convention on Biological Diversity and the United Nations Sustainable Development Goals (SDGs), promoting a sustainability vision of Net Positive Impact through concrete actions. This forest is not only a sanctuary of nature, but also a model of harmonious coexistence between enterprise and the environment.

6.4.1 Biodiversity and Environmental Education

Mabuville is not only AUO's educational training center, but also a natural classroom rich in biodiversity. The park has long been engaged in ecological observation and species documentation, and to date, numerous rare and endemic animals have been discovered. These include mammals, birds, amphibians, reptiles, and insects—amounting to dozens of key indicator species. Among them are second-grade protected species such as the pangolin, snake-eating turtle, Swinhoe's pheasant, and crested goshawk, as well as third-grade protected species like the crab-eating mongoose, Taiwan blue magpie, and Taipei tree frog, highlighting Mabuville's vital role as an ecological sanctuary.

To deepen understanding and respect for nature, Mabuville offers a variety of environmental education programs. For example, the "Eco Magnifier" guides participants through seasonal tours to observe natural rhythms such as plant blooming, bird breeding, and insect transformations. The "Night in the Black Forest" leads visitors into the nighttime woods to observe nocturnal creatures like flying squirrels, owls, and fireflies, allowing them to experience the forest's vibrant life after dark. These activities not only enhance ecological sensitivity but also strengthen awareness of habitat conservation.

In terms of conservation practices, Mabuville adopts eco-friendly and scientifically grounded management strategies. These include control biting midges with plant ash solutions instead of chemical agents , and regularly removing invasive species such as Mikania micrantha by hand to preserve the integrity of native plant and animal habitats.

6.4.2 Forest Circularity and Waste Regeneration

In response to the concept of forest circularity, AUO has partnered with the social innovation brand Wood Vinegar Master to launch a green transformation initiative—from forest pruning to regenerated products. Through this collaboration, pruned branches and leftover wood from Mabuville are no longer treated as waste. Instead, they are processed and carbonized to become environmentally friendly wood vinegar cleaning products.

This partnership not only realizes resource reuse but also connects the supply and demand ends of social innovation and enterprise, demonstrating a joint effort to promote SDG 12: Responsible Consumption and Production. It also serves as a tangible symbol of AUO and Mabuville's commitment to sustainability, earning recognition with the Special Award in the Environmental Sustainability Category of the 2023 Buying Power Awards by Taiwan's Ministry of Economic Affairs.

6.5 AUO Envirotech

Panel manufacturing requires the use of various environmental resources. AUO has long been committed to improving energy and water efficiency, and has transformed its successful experiences into services by establishing its subsidiary, AUO Envirotech. By integrating the group's synergies, AUO Envirotech extends technological innovation to diverse application fields, aiming to become a green solution provider that supports industries in achieving energy-saving and carbon-reduction goals.

AUO Envirotech offers environmentally friendly green technology solutions, including water treatment technologies and EPC engineering, energy-saving equipment and engineering, intelligent facility management, and carbon management platforms, among other environmental sustainability services.

6.5.2 Water Resource Treatment - Crystallization and Drying Technology

AUO Envirotech's full water recycling technology concentrates and reduces process water usage through membrane concentration technologies, followed by evaporation equipment to achieve zero liquid discharge (ZLD). Given that evaporators consume significant energy, AUO Envirotech has adopted an energy-efficient crystallization evaporation technology that combines vacuum and mechanical vapor recompression (MVR), making the evaporation process more energy-saving and reducing carbon emissions compared to traditional methods. The high-temperature condensed water is recovered and reused to preheat the mother liquor, thereby minimizing overall energy consumption. In addition to its application in wastewater ZLD, this energyefficient crystallization evaporation technology is also utilized to recover high-value crystallized solids from saturated mother liquor. These are processed via centrifugation and drying to yield high-quality crystals, realizing the goal of resource circular reuse.

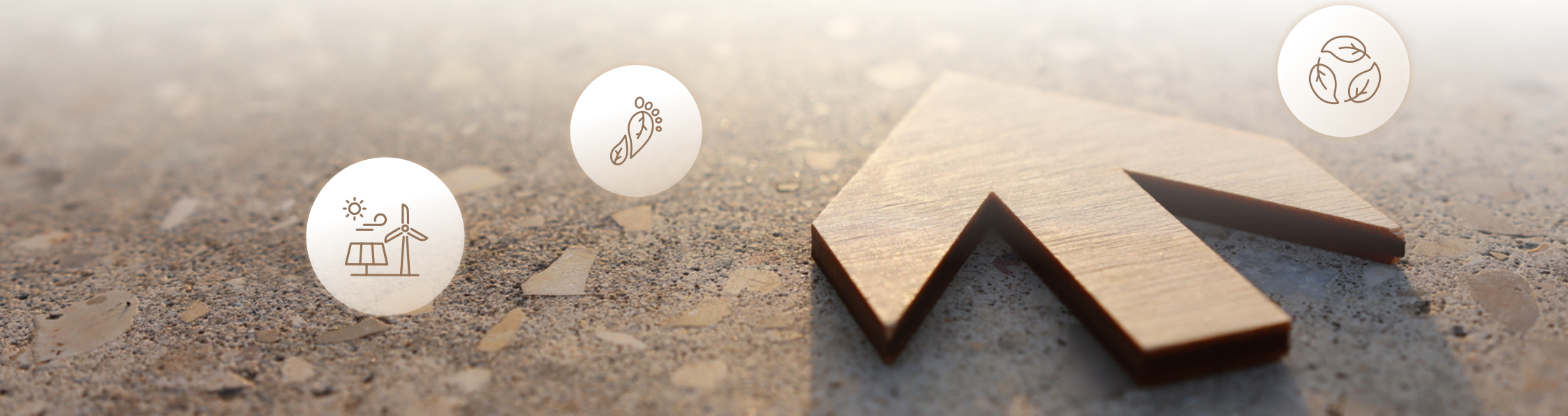
6.5.3 Water Treatment Technology Assists in the Construction of Reclaimed Water in the Central Taiwan Science Park

As water treatment experts, AUO Corporation and AUO Envirotech, are participating in the "Shueinan Water Resource Recovery Center Effluent Recovery New Build, Transfer and Operating Project (BTO)" conducted by the Water Resources Bureau of Taichung City Government. With abundant wastewater treatment and recovery technology and experience, they are helping to reuse the effluent originally discharged from the water resource center as reclaimed water. It is expected that at least 10,000 CMD of reclaimed water will be provided in the initial stage of water supply to nearby AUO Taichung plant and other enterprises, effectively alleviating the risk of water shortage in industries.

07 Way Forward

Based on the findings of this TNFD exercise, as well as to strive for adhering to the nature-related policies and goals of AUO, AUO will continue looking into opportunities in managing nature-related risks and contributing to nature positive.Particularly, through the current TNFD exercise, the possible areas that AUO could look into include deepened subsidiary and value change nature-related risk assessment, as well as site-specific nature positive measures such as biodiversity enhancement measures at selected sites with higher linkage to natural habitats.

In addition to understanding the company's relationship with nature and setting commitments that credibly contribute to nature positive, AUO will follow the SBTN AR³T Framework to Avoid, Reduce, Restore & Regenerate and Transform in regard to managing its nature-related business impacts and actions towards nature positive. AUO aims at adhering to the global goal that taking actions that reduce harm to help collectively reverse nature loss by 2030, while pursuing restorative, regenerative and transformative actions are critical to achieving full recovery by 2050.



Appendix

TNFD Comparison Table

TNFD Disclosure	Topics	Chapter in the Report
Governance	Describe the board's oversight of nature-related dependencies, impacts, risks and opportunities.	Chapter 2.1
	Describe management's role in assessing and managing nature-related dependencies, impacts, risks and opportunities.	Chapter 2.2
	Describe the organisation's human rights policies and engagement activities, and oversight by the board and management, with respect to Indigenous Peoples, Local Communities, affected and other stakeholders, in the organisation's assessment of, and response to, nature-related dependencies, impacts, risks and opportunities.	Chapter 2.3
Strategy	Describe the nature-related dependencies, impacts, risks and opportunities the organisation has identified over the short, medium and long term.	Chapter 3
	Describe the effect nature-related dependencies, impacts, risks and opportunities have had on the organisation's business model, value chain, strategy and financial planning, as well as any transition plans or analysis in place.	Chapter 3
	Describe the resilience of the organisation's strategy to nature-related risks and opportunities, taking into consideration different scenarios.	The nature scenario has not been applied yet. For the climate scenario, please refer to AUO's TCFD report.
	Disclose the locations of assets and/or activities in the organisation's direct operations and, where possible, upstream and downstream value chain(s) that meet the criteria for priority locations.	Chapter 4.2
Risk and Impact Management	(i) Describe the organisation's processes for identifying, assessing and prioritising nature-related dependencies, impacts, risks and opportunities in its direct operations.	Chapter 4.1 – 4.5
	(ii) Describe the organisation's processes for identifying, assessing and prioritising nature-related dependencies, impacts, risks and opportunities in its upstream and downstream value chain(s).	Chapter 4.1 – 4.5
	Describe the organisation's processes for monitoring nature-related dependencies, impacts, risks and opportunities.	Chapter 5
	Describe how processes for identifying, assessing, prioritising and monitoring nature-related risks are integrated into and inform the organisation's overall risk management processes.	Chapter 4.6
Metrics and Targets	Disclose the metrics used by the organisation to assess and manage material nature-related risks and opportunities in line with its strategy and risk management process.	Chapter 5
	Disclose the metrics used by the organisation to assess and manage dependencies and impacts on nature.	Chapter 5
	Describe the targets and goals used by the organisation to manage nature-related dependencies, impacts, risks and opportunities and its performance against these.	Chapter 5

TNFD GLOSSARY

Term	Definition
Asset Tagging	According to TNFD's LEAP guidance, asset tagging is a method deepen the heatmap method by using data specific to corporate assets to determine the exposure to dependencies and impacts.
Biodiversity	The variability among living organisms from all sources, including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.
Dependencies (on nature)	Dependencies are aspects of environmental assets and ecosystem services that a person or an organization relies on to function. A company's business model, for example, may be dependent on the ecosystem services of water flow, water quality regulation and the regulation of hazards like fires and floods; provision of suitable habitat for pollinators, who in turn provide a service directly to economies; and carbon sequestration.
Impacts (on nature)	Changes in the state of nature (quality or quantity), which may result in changes to the capacity of nature to provide social and economic functions. Impacts can be positive or negative. They can be the result of an organization's or another party's actions and can be direct, indirect or cumulative. A single impact driver may be associated with multiple impacts.
Liability Risk	Liability risks arise directly or indirectly from legal claims. As laws, regulations and case law related to an organization's preparedness for nature action evolves, the incident or probability of contingent liabilities arising from an organization may increase.
Market Risk	Changing dynamics in overall markets, including changes in consumer preferences, which arise from other risk categories as a result of changing physical, regulatory, technological and reputational conditions and stakeholder dynamics.

Term	Definition
Nature-positive	A high-level goal and concept describing a future state of nature (e.g., biodiversity, ecosystem services and natural capital) that is greater than the current state.
Policy Risk	Changes in the policy context due to new (or enforcement of existing) policies associated with creating positive impacts on nature or mitigating negative impacts on nature.

Priority Locations	Priority locations are locations that are:
	• Material locations : Locations where an organization has identified material nature-related dependencies, impacts, risks and opportunities in its direct operations and upstream and downstream value chain(s); and/or
	• Sensitive locations : Locations where the assets and/or activities in its direct operations – and, where possible upstream and downstream value chain(s) – interface with nature in :
	  • Areas important for biodiversity; and/or
	  • Areas of high ecosystem integrity; and/or
	  • Areas of rapid decline in ecosystem integrity; and/or
	  • Areas of high physical water risks; and/or
	  • Areas of importance for ecosystem service provision, including benefits to Indigenous Peoples, Local Communities, and stakeholders.

Reputational Risk	Changes in perception concerning an organization's actual or perceived nature impacts, including at the local, economic, and societal level. This can result from direct company impacts, industry impacts and/or impacts of activities upstream and/or downstream in a value chain.
State of Nature	The condition and extent of ecosystems, and species population size and extinction risk, including positive or negative changes.


AUO
TAP INTO
THE POSSIBILITIES