

CP Axtra Public Company Limited TCFD 2025 Disclosures

TCFD Report

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INTRODUCTION

Formerly Siam Makro PCL, CP Axtra Public Company Limited (the Company) operates two core businesses: member-based wholesale business and retail business. The Company has been continuously expanding to provide a wide range and assortment of products to professional members, business operators, and end consumers. Headquartered in Bangkok, the Company has over 2,800 branches with all types of store formats domestically and internationally. The Company's wholesale business includes wholesale stores operating under the Makro brand in Thailand and international markets (except in India, where the Company operates under "LOTS Wholesales Solutions") and the food service business. The Company's retail business is operated by Lotus's in Thailand and Malaysia. CP Axtra remains steadfast in its devotion to becoming an industry leader whilst expanding its scope of business operations, both online and offline, to be competitive at a regional level in Southeast Asia.

In doing its part towards meeting the Paris Agreement goals alongside the drive for business growth, climate resilience has been identified as one of the Company's overall 2030 sustainability strategies. To strengthen the Company's efforts in this regard, CP Axtra is determined to achieve its carbon neutral target by 2030 for its Scope 1 and Scope 2 emissions, and achieve Net Zero by 2050. In 2023-4, the Company assessed its exposures to climate-related risks and opportunities across scenarios and time horizons, and have developed a climate strategy framework to comprehensively manage their potential impact. Furthermore, CP Axtra has increased its climate ambitions by committing to submit science-based targets to the Science Based Targets initiative (SBTi). As part of this effort, the commitment covers the reduction of emissions from Forestry, Land, and Agriculture (FLAG) sector. The Company is in the process of developing targets for validation with SBTi which will further enhance transparency of its emission reduction progress and reinforce its commitment reducing greenhouse gas emissions.

This report is the Company's first step in providing disclosure on its climate governance, strategy, climate-related risk management and metrics, and targets in line with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), which serves as a foundation for the Company's climate journey through establishing a baseline, awareness, and structures. It also articulates on CP Axtra's commitments to combating climate change, integrating climate risks and opportunities into the Company's risk assessment process whilst reinforcing its three core sustainability pillars: "Heart - Living Right", "Health – Living Well", and "Home - Living Together". The scope of the report covers the operation of CP Axtra PCL, its subsidiaries, and selected assets in Thailand and overseas. With reference to the four core elements of the TCFD framework, the Company organizes this disclosure framework as follows (**Figure 1**):

Figure 1 Four Pillars of the TCFD Recommendations



Governance
Describes CP Axtra's governance around climate-related risks and opportunities.

Strategy
The actual and potential impacts of climate-related risks and opportunities on business, strategy, and financial planning.

Risk Management
The processes used by CP Axtra to identify, assess, and manage climate-related risks.

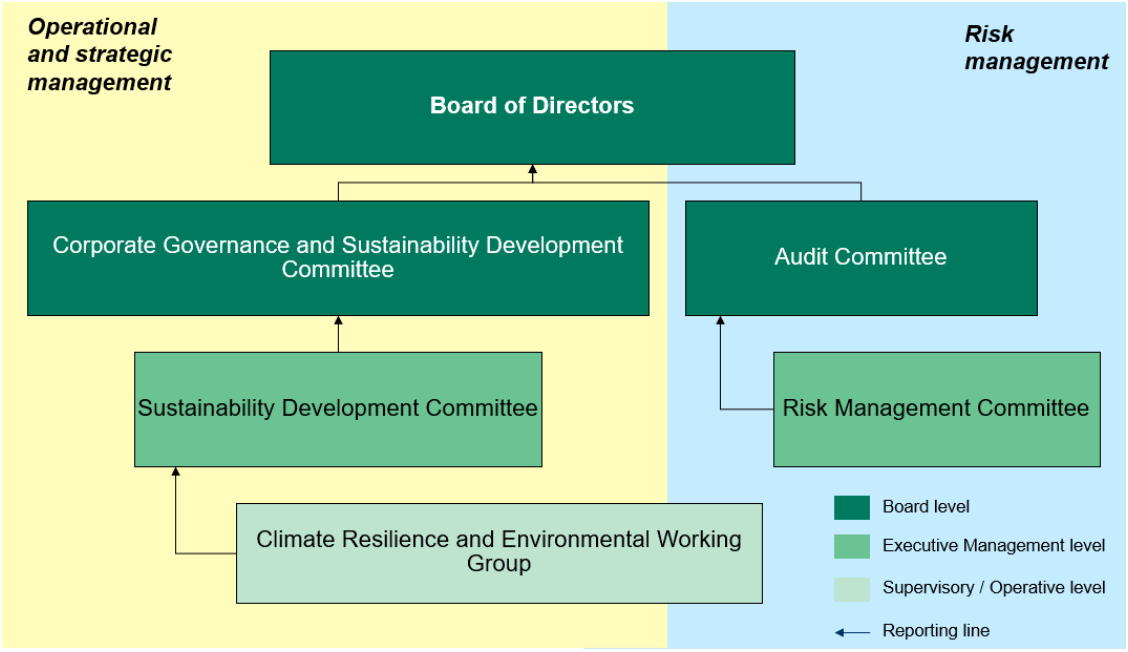
Metrics & Targets
The metrics and targets used to assess and manage relevant climate-related risks and opportunities.

Moving forward, CP Axtra seeks to continually improve its climate risk and opportunity management in line with TCFD recommendations and global practices. The Company intends to regularly review its climate performance against the four pillars above and update this document on an as-needed basis.

GOVERNANCE

CP Axtra's robust governance structure is in place to facilitate the oversight of climate-related issues. The Board of Directors (the Board) is the ultimate decision-making body and is responsible for the overall oversight of the Company, including overseeing and approving business strategic plans and managing approaches, driving response measures related to environmental, social, and governance (ESG) issues, which also covers the management of climate-related risks and opportunities. The Board considers and reviews its sustainability-related issues and performance as well as mission and strategic plans at least once a year, and assigns relevant functions to develop respective action plans to address these issues.

Figure 2 Organizational Structure of Climate Governance



Under the Board's oversight, several committees are established to assist the Board in the Company's management of climate-related risks and opportunities, as well as oversee daily operations and report back to the Board in a timely manner (**Figure 2**).

These committees include the following:

- Corporate Governance and Sustainability Development (CG&SD) Committee
- Sustainability Development Committee
- Risk Management Committee, under the Audit Committee

In addition, the Climate Resilience Working Team was established in June 2022 under the Sustainability Development Committee to enhance the implementation of climate strategy. The roles and responsibilities of each committee are summarized in **Table 1**.

Table 1 Roles and Responsibilities of Key Functions

CP Axtra Functions	Composition	Climate-related Roles and Responsibilities
Board level		
CG & SD Committee	Chaired by an independent director and consists of non-executive directors knowledgeable and experienced in sustainability issues	▪ Identify and monitor material climate-related risks and opportunities ▪ Endorse policy, framework and strategies to promote sustainability development and climate resilience in the company for the Board's approval ▪ Supervise, monitor and review the Company's operations against its climate strategy, action plan and goals through corporate-level oversight ▪ Report directly to the Board
Executive management level		
Sustainability Development Committee	Chaired by one of the Board members, the committee consists of senior executives from all departments responsible for economic, social and environmental performance	▪ Oversee the efficiency and effectiveness of sustainability and climate performance throughout the Company ▪ Establish targets, develop strategies, management approaches, and performance indicators for climate-related issues ▪ Assign working groups to drive organizational performance to comply with the Company's objectives ▪ Monitor and review progress on climate actions and other related plans for the CG & SD Committee's approval ▪ Communicate the progress and commitment of the climate dimension within sustainability strategies to internal and external stakeholders
Risk Management Committee	The committee consists of Company executives with expertise and experience in risk management. It is structurally independent of the business lines and reports directly to the top management of the Company.	▪ Formulate a risk assessment framework and risk management policies covering environmental risks (including climate change) ▪ Oversee climate-related risk management ▪ Defines the direction of risk management of the Company according to its risk appetite and risk policy ▪ Review corporate strategies to ensure the adequacy and appropriateness of risk management for climate-related issues ▪ Report to the Audit Committee and the Board on its performance annually
Supervisory / Operative level		
Climate Resilience Working Team	Chaired by a member of the Sustainability Development Committee and consists of 17 representatives across departments including Sales and Operations, Supply Chain Management, Construction and Facilities, Risk Management and	▪ Establish operational targets related to climate resilience, such as increasing the share of renewable energy and low-carbon energy, in line with the Company's sustainability strategy ▪ Implement GHG emissions reduction and offset programs and provide quarterly updates to the Sustainability Development Committee ▪ Examine technology options and identify solutions for emissions reduction and climate change mitigation that are suitable for the Company

	Compliance, Sustainability, Finance Planning and Analysis, Corporate General Affairs, Account	▪ Monitor and ensure compliance with internal environmental policy and guidelines, as well as laws and regulations on GHG emissions ▪ Engage with stakeholders to raise awareness on climate issues, and collaborate with relevant stakeholders on climate change management and climate resilience ▪ Communicate environmental performance to the Sustainability Development Committee and to other stakeholders via reports and other disclosure channels at least once a year

Additional information on the governance framework of CP Axtra's Sustainability is detailed in our Company's website at sustainability-development-committee-en.pdf

As an enabler towards meeting its climate ambitions and driving climate action within the Company, CP Axtra has also included climate-related metrics as part of its CEO and senior executives' key performance indicators and as part of the Company's long-term incentive plan. Contributions of performance indicators for energy efficiency and other carbon neutral initiatives ranges from 3% of total performance indicators see more detail at link ceo-related-en.pdf.

STRATEGY AND RISK MANAGEMENT

Climate Change Risk Assessment

To enable CP Axtra's strategy for the management of risks and opportunities associated with climate change and low-carbon transition, the Company conducted a climate change risk assessment. The assessment was conducted through a three-step approach as shown in **Figure 3 Three-step Climate Change Risk Assessment**, with each step explained below.

Figure 3 Three-step Climate Change Risk Assessment



Step 1: Identification of risk/opportunity drivers

CP Axtra conducted a desktop review of the latest climate-related policies, regulations, market trends and historical hazard events in the Company's countries of operation. CP Axtra also reviewed the risks and opportunities reported by its peers to identify and shortlist the risk and opportunity drivers potentially most relevant to the Company's business and operation. The Company has taken into account the eight types of corporate risks from its Enterprise Risk Management Manual in the identification of climate-related risk and opportunity drivers to enhance the alignment of its climate risk management with the corporate's overall risk management system.

Step 2: Scenario analysis

Having shortlisted the climate-related drivers, CP Axtra conducted internal consultations through a workshop to seek people's views on the magnitude and likelihood of impact from each driver towards short-term, medium-term, and long-term time horizons. The exercise allows the Company to plot the

drivers on a risk matrix that informs the comparative significance of each driver to CP Axtra's business between a base case (i.e., high-emissions) scenario and a low-emissions scenario.

Each driver was subsequently assigned with an indicator from external climate scenarios. Scenario data were fed into CP Axtra's assessment to allow for the integration of an objective perspective based on science. The results were normalized and presented as a heatmap to inform the relative materiality of each driver to CP Axtra's business.

Step 3: Implication analysis

Once the drivers and their materiality were identified and assessed, CP Axtra reviewed and identified the implications of each driver on various aspects of the Company's business, from the upstream supply chain to downstream customers. The Company also discussed the mitigation measures currently in place or planned in the future among internal stakeholders. The key findings of this discussion enabled CP Axtra to formulate a climate strategy framework and action plan. The following sub-sections provide more detail.

Selection of the Scenarios and Time Horizons

In accordance with TCFD recommendations, the scenario analysis was conducted using selected future-looking climate-related scenarios, as described below (**Table 2**).

Table 2 Climate-Related Scenarios and Time Horizons for Risk Assessment

Type	Source	Scenarios		Time Horizons
Transition[1]	World Energy Outlook 2024, International Energy Agency (IEA WEO2024)	**IEA Net Zero Emissions by 2050 Scenario** It aligns with limiting global warming to 1.5°C above with no or limited overshoot.	**IEA Stated Policies Scenario** Current trajectory based on the stated climate policy ambitions, represents 'business as usual' towards 2050.	**Near term:** 2025 **Medium term:** 2030 **Long term:** 2050
Physical	Sixth Assessment Report of the United Nations Intergovernmental Panel on Climate Change (IPCC AR6)	**SSP1 – 2.6** Low-emissions scenario where warming is limited to 1.6°C by 2100 with net-zero emissions possibility.	**SSP5 - 8.5** High-emissions scenario where warming reaches 2.4°C by mid-century and 4.4°C by 2100.	**Near term:** Baseline **Medium term:** 2030 **Long term:** 2050

Medium- and long-term time horizons were chosen to align with the company-wide emissions reduction targets.

[1] For the scenario analysis in risk assessment, the Announced Pledges Scenario (APS) is applied for qualitative assessment, while the Net Zero Emissions by 2050 Scenario (NZE) is used for quantitative assessment. This approach provides a balanced view, with APS reflecting governments' stated policy commitments and NZE offering a more rigorous quantification of potential price impacts under a net-zero trajectory.

Transition Risks and Opportunities Identification and Assessment

Following TCFD recommendations, CP Axtra categorized transition drivers into four types: **policy and legal**, **market**, **technology**, and **reputation**. The assessment was conducted in three steps described above. The tables below provide a summary of the results of these steps, including the identification of transition drivers, relative materiality of each driver based on the assessment, and potential financial implications.

It should be noted that the relative materiality was determined by incorporating CP Axtra's internal perspective on the magnitude and likelihood of impact from each driver and the external perspective informed by the International Energy Agency (IEA)'s World Energy Outlook 2024. Here, the Company focuses on the comparative significance of each driver between the base case and the low-carbon case, as it assumes that most transition drivers can be influenced by various factors not related to climate change or low-carbon economy transition. For example, the global energy crisis since 2022 was mainly driven by geopolitical conflicts rather than the low-carbon transition. By focusing on the comparative significance (or difference) between the base case (i.e., where low-carbon transition is lagged) and the low-carbon case (i.e., where the progress of low-carbon transition aligns with international climate commitments), CP Axtra can capture the precise impact of climate-related risks and opportunities have on its business.

Policy and Legal

Identified Transition Driver	Driver and impact description	Relative Materiality			Potential Financial Implications
		2025	2030	2050	
Carbon Pricing Mechanisms	Risk factor: Governments in CP Axtra's countries of operation are preparing for carbon pricing policies, such as carbon tax. The Company expects the phenomenon to escalate in the long term, resulting in a direct and/or indirect increase in operating expenditure (OpEx) for the business.	Limited	Low Risk	High Risk	Increase in OpEx directly from an explicit carbon price (e.g., direct purchase of carbon credits, payment of carbon tax) or indirectly from an increased energy/input cost due to a carbon price on our supply chain.
Increasing risk from climate change-related litigation	Risk factor: Over 2,142 climate change litigation cases have been filed globally, where more than half of the cases filed against corporate actors were filed against non-fossil sectors, such as food and agriculture. CP Axtra expects that climate-related legislations will be strengthened in countries and operation where the Company is based, which may either have a direct impact on its business due to higher compliance obligations, or an indirect impact passed through from its value-chain.	No proxy indicator available			Increase in OpEx for compliance costs related to the emerging regulations in climate-related topics. Potential decrease in the Company's valuation if any legal action is taken against the Company.
Tightening restrictions on plastic products	Risk factor: While regulations on plastic packaging and products may not have direct impact on CP Axtra's core operations, they may place constraints on its value chain partners. Emerging and existing	Limited	Low Risk	Mod. Risk	Increase in OpEx for procuring raw material substitutes for plastic or developing low-carbon packaging alternatives to the market. Potential

	policies and regulations such as 'Thailand's Roadmap on Plastic Waste Management' (2018-2030), which aims to direct 100% of target plastic wastes into the Circular Economy by 2027, can translate into higher compliance cost in the supply chain.				decrease in revenue if the market is not conducive for increasing goods prices in line with increase expenditure. Regulations on plastic waste management, such as Extended Producer Responsibility (EPR) may require CP Axtra's wholesale and retail operations to take on active waste management responsibilities, including offering waste drop-off and sorting facilities at store locations.

Market

Identified Transition Driver	Driver and Impact Description	Risk Scores			Potential Financial Implications
		2025	2030	2050	
Market-driven shift toward Green Consumerism	<u>Risk factor:</u> A shift in consumer behavior towards more sustainable or green products may lead to reduced revenue from lower demand from consumer behavior changes. The retail sector may need to increase investment in research and development in sourcing products with good sustainability profile to meet evolving customer preferences. In addition, increased public communications effort to highlight CP Axtra's sustainability performance and commitment to the market may be required. <u>Opportunity factor:</u> There is more room for growth for sustainability-focused products and services as the market matures and such products and service migrate from niche market to end consumers. <u>Overall impact direction</u>: Green consumerism implies challenges in engaging with supply chain partners and to constantly source low-carbon products and services. At the time of the assessment, this driver presents a higher risk than opportunity due to the potential cost increase and revenue decrease from the transition.	Limited	Limited	Low Risk	Potential increase in capital expenditure (CapEx) and OpEx due to increased expenditure on research and development of new product lines, environmentally friendly packaging, and sustainable production processes (e.g., low-carbon products). This may negatively impact revenue if customers expect product prices to remain constant but with increased positive environmental footprint.

Technology

Identified Transition Driver	Driver and Impact Description	Risk Scores			Potential Financial Implications
		2025	2030	2050	
Low-carbon logistics	Risk factor: Transportation is an important source of emissions across CP Axtra's value chain. Although the vehicles owned by the Company are limited, CP Axtra has engaged logistic partners for the transportation of goods across its distribution centers and stores. The transport sector is facing pressure to decarbonize, which involves disruptive technologies such as electric vehicles and renewable/clean fuels. Major capital investments for infrastructural replacement and upgrades as well as associate costs for operation and maintenance may become important cost items for our logistic partners, potentially impacting the Company indirectly.	Limited	Limited	Moderate Risk	Increase in CapEx for the investment of low-carbon transport solutions (e.g., electric vehicles and charging facilities). Increase in OpEx due to the pass-through effect where the third-party contractors pass its investment cost of low-carbon transport onto CP Axtra.
Low-carbon refrigerants	Risk factor: CP Axtra has initiated the adoption of cooling/refrigeration systems based on refrigerants with low global warming potential (GWPs) and made significant progress in this area. However, a sizable portion of CP Axtra's systems are still based on conventional refrigerants with high GWPs. In the medium to long term, those remaining high GWPs systems will need to be replaced by low GWPs systems, leading to an important capital investment and associated operating costs.	Limited	Low Risk	Moderate Risk	Increase in CapEx for cooling/refrigeration system retrofit and replacement. OpEx can be lower or higher than current systems due to efficiency differences, but maintenance costs may increase as new cooling/refrigeration systems based on refrigerants with low GWPs are not as commonly used as conventional systems that run on high-GWPs refrigerants.
Increased uptake of renewable energy	Risk factor: Deployment of renewable energy solutions can be carried out in various ways. CP Axtra has partnered with third party solution providers to avoid the potential risk from direct investment of renewable systems. Opportunity factor: The Company has used renewable energy through power purchase agreements (PPAs). Therefore, the investment cost of renewable systems is born by third party solution providers, while CP Axtra can enjoy steady and predictable energy cost. Overall impact direction: PPA is a common business model for renewable electricity. Based on the Company's experience, the expansion of renewable	Limited	Low Opp.	Mod. Opp.	CP Axtra leverages power purchase agreements to deploy the use of electricity generated from renewable sources (mainly solar power). This would slightly increase our OpEx in the short run due to higher green tariffs, and allows us to benefit from long-run economic gains as electricity generated from fossil fuels became more expensive in a low-carbon world.

	systems through this model can be expected to bring an increasing opportunity to manage operating costs.				
Higher energy efficiency for buildings and machinery	Risk factor: Some energy efficiency measures require the replacement of existing equipment, leading to an increase in capital expenditure (CapEx). Opportunity factor: According to the IEA, energy efficiency improvement can be achieved by two to three times with standards and labeling. This benefit can be translated into the reduction of energy bills. Overall impact direction: CP Axtra has progressively introduced energy efficient appliances and equipment across its operation. Given the amount of energy reduction potential, the Company believes the benefit will become tangible in the coming years.	Limited	Limited	Low Opp.	CP Axtra will need to increase CapEx in the short run to replace inefficient machinery. However, OpEx will be decreased in the long run due to energy efficiency improvement. The opportunity is considered limited by 2030 from the CapEx required for machinery replacement. In the long run, the opportunity may become more tangible due to reduced energy expenditure.

Reputation

Driver and Impact Description	Driver and Impact Description	Driver and Impact Description			Driver and Impact Description
		Driver and Impact Description	Driver and Impact Description	Driver and Impact Description	
Higher access to finance and capital due to stakeholder recognition	Risk factor: Stakeholder expectations on CP Axtra's climate responsibility along the value chain will impact the Company's reputation. Unfavorable climate-related performance could affect the Company's access to capital and reduce its valuation if stakeholder expectations are not met. Opportunity factor: Good management of climate-related topics can support the Company in gaining recognition from its stakeholders, raising its corporate valuation thus turning risk into opportunity. Overall impact direction: CP Axtra has been proactive in improving our climate performance through various initiatives as illustrated in this report. This has allowed the Company to tap into sustainable finance and will continue to facilitate its access to finance and capital.	No proxy indicator available			Increased valuation of CP Axtra if its climate performance is strong enough to gain recognition from relevant stakeholders, facilitating the Company's access to capital and finance.

Physical Risks Identification and Assessment

CP Axtra categorized physical risks into two types, **acute** and **chronic** hazards, and identified eight hazards that may pose a physical climate risk to the Company's assets and operations, value chain, and the health and safety of its staff and customers. These hazards include **extreme heat**, **riverine floods**, **extreme rainfall floods**, **coastal floods**, **extreme winds and storms**, **rainfall-induced landslides**, **water stress and drought**, and **wildfires**.

The coverage of this assessment includes 25 key assets selected from CP Axtra's portfolio across East and Southeast Asia. These involve two main asset types – firstly, the Company's wholesale and retail stores, and secondly, its distribution centers and warehouses. An overview of the screening results is summarized in **Table 3** across all the 25 assets under different scenarios and time horizons.

Table 3 CP Axtra's Physical Climate Risks

Type	Identified Physical Risk Driver	Baseline	SSP1-2.6		SSP5-8.5	
			2030	2050	2030	2050
Acute/Chronic	Extreme heat	Low Risk	Moderate Risk	High Risk	High Risk	Very High Risk
Acute	Riverine floods	Moderate Risk	Moderate Risk	Moderate Risk	Moderate Risk	Moderate Risk
Acute	Extreme rainfall floods	Limited	Limited	Limited	Limited	Limited
Acute/Chronic	Coastal floods	Limited	Limited	Limited	Limited	Limited
Acute	Rainfall-induced landslides	Limited	Limited	Limited	Limited	Limited
Acute	Extreme winds and storms	Limited	Limited	Limited	Limited	Limited
Acute/Chronic	Water stress and droughts	Moderate Risk	High Risk	High Risk	High Risk	High Risk
Acute	Wildfires	Moderate Risk	High Risk	High Risk	High Risk	Very High Risk

The findings suggest that the Company should prioritize its responses to extreme heat, wildfires, water stress and drought, and riverine floods. Certain sites are also at relatively higher risk from extreme rainfall floods and extreme winds and storms. Therefore, the Company has identified the business and financial implications of these hazards, alongside key adaptation measures specific to CP Axtra's business activities in the best case (SSP 1-2.6) and worst case (SSP 5-8.5) scenarios. The risk assessment and plan to adapt to physical climate risks cover 100% the location including the new business operations sites.

Extreme heat

Maximum temperatures and the frequency of extreme heat events are anticipated to rise globally due to climate change. A higher prevalence of this hazard may increase potential financial risk for CP Axtra by increasing operating costs and/or reducing revenue. Over 90% of the assessed real estates and all the assessed distribution centers are potentially exposed to a 'High' or 'Very High' risk of extreme heat by 2050 under at least one climate scenario.

Scenario	Risk Level		Business Impact	Financial Implications	Adaptation Measures within 5 years
	2030	2050			
Best case (SSP 1-2.6)			**Upstream** • Increased likelihood of product spoils during transportation but is manageable with mitigation measures implemented. **Direct Operations** • During extreme heat events, there may be an increased energy demand for cooling of indoor areas for equipment and personnel which can increase energy costs. **Downstream** • Customers may be less likely to use non-essential retail services during extreme heat conditions, leading to business disruptions and revenue loss.	**Increased direct costs** –increased use of energy for cooling of indoor areas for personnel or temperatures sensitive products which can increase costs. **Decrease revenues due to reduced sales capacity** – Customers may be less likely to use non-essential retail and commercial real estate during extreme heat conditions which can lead to business disruptions and loss in revenue.	• Determine whether extreme heat has been factored into design specifications for high-risk sites. • Identify sites that may be particularly prone to downtime during extreme heat due to a high proportion of outdoor operations, and devise business contingency plans (e.g., altering work schedules, introducing stop work procedures) if not already in place. • Provide training to employees to identify symptoms of heat stress and provide first aid.
Worst case (SSP 5-8.5)			**Upstream** • Increased likelihood of failure of temperature-sensitive equipment and product spoils during transportation leading to product shortage in stores. • Employees working in outdoor or semi-outdoor roles, such as security personnel and construction workers, are particularly vulnerable to sustained high-	**Increased direct costs** –increased use of energy for cooling of indoor areas for personnel or temperatures sensitive products which can increase costs, additional product procurement due to spoils during transportation. **Decrease revenues due to reduced sales capacity** – associated with	

			temperature conditions. Prolonged exposure elevates the risk of heat stress, dehydration, and heat stroke, which can compromise both health and safety. Even in environments with cooling systems, additional protective measures, such as more frequent breaks, reduced working hours, or slower work pace, are often necessary. Direct Operations • During extreme heat events there may be an increased energy demand for cooling of indoor areas. for equipment and personnel. Employees may work at reduced capacity due to heat-related illnesses • Extreme heat is expected to pose a high risk to solar power, where extreme temperatures can significantly reduce the cell efficiency and potentially damage the panels. **Downstream** • There may be health and safety issues, such as heat stroke and dehydration, for staff and customers if there is not enough cooling in place. • A significant portion of customers may prefer to use e-commerce deliveries, resulting in significantly reduced foot traffic at stores.	reduced efficiency or failure of temperature sensitive equipment, spoiling of products and decreased capacity of workforce due to heat related illnesses (e.g., heat stroke). Customers are noticeably less likely to use non-essential retail and commercial real estate during extreme heat conditions which can lead to business impact and loss in revenue.	

Note: Risk level colors correspond to risk level ratings in Table 3

Floods, extreme winds, and storms[2]

Extreme weather events, including high levels of precipitation and extreme rainfall are projected to increase due to physical climate change. This is likely to heighten both the frequency and intensity of flooding, increasing the risk of physical damage to infrastructure. CP Axtra may experience increased capital expenditure and operating costs, and reduced revenue as a result. Around one third of the assessed real estates and over half of the assessed distribution centers are exposed to a 'High' or 'Very High' risk of flooding by 2050 under at least one emission scenario. However, there is a moderate increase from the baseline across both scenarios and both time horizons on an aggregate level.

Scenario	Risk Level		Business Impact	Financial Implications	Adaptation Measures within 5 years
	2030	2050			
Best case (SSP 1-2.6)			**Upstream** • Access to the affected assets (e.g., from suppliers to distribution centers/retail stores) may be interrupted by floods, causing supply chain delays. **Direct Operations** • Structural damage to buildings that is covered under insurance. • Debris and floodwaters may block key access routes for deliveries and staff for a short period of time. **Downstream** • Debris and floodwaters may reduce number of customers at physical stores.	**Decrease revenues due to reduced production capacity** – whilst repairs are being carried out, or if electricity supply is interrupted. Production capacity may also reduce if materials or equipment in real estates or distribution centers become damaged, or deliveries from suppliers are delayed. **Increased direct costs** – associated with cleaning up floodwaters or debris, or rerouting deliveries of products, and insurance costs. **Financial impact cost:** Floods between 2020-2024, resulted in ~1 million THB in damaged goods across Makro stores in Lopburi and 2 million THB in lost revenue.	• Flood prevention and extreme wind management are integrated into the store development process: store selection in low flood risk areas, preventive building design and material specifications to withstand extreme winds. • A business continuity plan (BCP) for flood risk has been developed and implemented for every asset, which includes training for the store managers to monitor rainwater levels, mobilizing a business continuity team and utilizing business continuity

[2] For all other hazards in the category except riverine flood, limited risk was found across baseline, SSP 1-2.6, and SSP 5-8.5 scenarios and all timeframes. Consequently, this section will only focus on business impact, financial implications, and adaptation measures for riverine flood risk.

				Extreme winds and storms between 2020-2024, resulted in ~4.5 million THB in financial damages across Lotus's stores.	budget (e.g., sandbag purchases) for flood prevention in high-risk circumstances. The BCP includes coordination with local authorities and emergency personnel and provides for alternative transportation methods to assist customers, suppliers, and local community members during floods. • Warehouses/distribution centers built in multiple regions to distribute risk of flood. • Coordination with suppliers to supply directly to stores to reduce goods shortages. • Online ordering channel to provide alternative means for customer to shop for products without having to come to the store. • Our current adaptation measures cover 100% of total revenue. • Insurance subscriptions[3]
Worst case (SSP 5-8.5)			**Upstream** • Access to the affected assets (e.g., from suppliers to distribution centers/retail stores) will be cut off by floods due to physical damage to roads, causing supply chain disruption. **Direct Operations** • Structural damage to buildings • Debris and floodwaters may block key access routes for deliveries and staff for extended periods of time (i.e., multiple days). • Flooding can pose a health and safety risk and evacuations may be necessary during a flooding event. **Downstream** • Debris and floodwaters, as well as extreme storm winds block access routes and discourage customers from traveling to physical stores.	**Increased capital expenditures** – associated with covering repairs to damage and/or replacing equipment and infrastructure not covered by insurance. **Decrease revenues due to reduced production capacity** – during repairs, or if electricity supply is interrupted. Production capacity may also reduce if materials or equipment in real estates or distribution centers become damaged, or deliveries from suppliers are delayed. **Increased direct costs** – associated with cleaning up floodwaters or debris, or rerouting deliveries of products to customers if key transport routes are blocked. **Financial impact cost:** Floods may result in ~10 million THB in damaged goods across Makro stores and 20 million THB in lost revenue. Extreme winds and storms may result in 45 million THB in financial damages	

[3] In the event the adaptation measures do not fully mitigate the impact, we use a risk-transfer mechanism in the form of natural disaster and business interruption insurance to lessen the overall financial risk to the Company.

				across Lotus's. This totals to a potential of 75 million THB impact on CP Axtra's operations in the worst case scenario.	

Note: Risk level colors correspond to risk level ratings in Table 3

Water stress and drought

Higher temperatures and more extreme, less predictable, weather conditions under climate change are expected to affect water availability by altering the distribution of rainfall, river flows and groundwater. Water stress occurs when water withdrawals exceed the available water supply. Climate change may drive an increase in water stress by reducing water availability from altered rainfall patterns. A lower availability of water may heighten potential financial risk for CP Axtra by increasing operating costs and/or reducing revenue. Almost half of the assessed real estates and 10% of the assessed distribution centers are potentially exposed to a 'High' or 'Very High' risk of water stress and drought by 2050 under at least one climate scenario.

Scenario	Risk Level		Business Impact	Financial Implications	Adaptation Measures within 5 years
	2030	2050			
Best case (SSP 1-2.6)			**Upstream** • Food and beverage supply chain may be affected by water stress as the production is water intensive, e.g., from agricultural commodities. **Direct Operations** • The cost of water for domestic use may go up during times of water stress and droughts. • There may be concerns on food safety if hygienic conditions of the supply chain and stores is affected by water stress, causing a potential reputational risk. **Downstream** • None identified	**Increased direct costs** – associated with higher water costs during periods of water stress and drought. Water stress may impact their supplies, causing a limited increase in the cost of sales. **Decrease revenues due to reduced sales capacity** – negative effects on sanitation, hygiene and food safety may lead to decreased sales.	• Adopt water efficient/saving technologies to reduce water usage. • Water storage infrastructures have been constructed near sites to ensure uninterrupted water supply during periods of water scarcity as well as the identification of alternate water source and supplies. • Explore opportunities for rainwater harvesting at site, recycle and reuse of wastewater.

Worst case (SSP 5-8.5)		**Upstream** • Agricultural commodities in CP Axtra's value chains are significantly affected by water stress, leading to supply shortages and increased costs of alternative suppliers. **Direct Operations** • The cost of water for domestic use increases during times of water stress and droughts, while consumption in stores and distribution centers for employees and cooling systems also increase. • There may be concerns on food safety if hygienic conditions of the supply chain and stores is affected by water stress, causing a potential reputational risk. **Downstream** • None identified	**Increased direct costs** – associated with higher water costs during periods of water stress and drought. Water stress is anticipated to impact their supplies, causing a significant increase in the cost of sales (e.g., for alternative sourcing). **Decrease revenues due to reduced sales capacity** – negative effects on sanitation, hygiene and food safety may lead to decreased sales.	

Note: Risk level colors correspond to risk level ratings in Table 3

Wildfires[4]

Warmer and dryer conditions across the globe, induced by climate change, are fueling both the intensity and frequency of wildfires. Even where wildfires are man-made, studies have shown that the impact of climate change has increased the intensity and severity of such wildfires[5]. Direct heat, and smoke from these events may increase potential financial risk for CP Axtra by increasing capital expenditure and operating costs and decreasing revenue. Over 90% of the assessed real estates and around 80% of the assessed distribution centers are exposed to a 'High' or 'Very High' risk of wildfires by 2050 under at least one emission scenario.

[4] Acknowledging that CP Axtra's retail stores and distribution centers are located in urban areas and therefore may not be directly impacted by a fire hazard, the inclusion of this risk was due to its secondary impacts, such as haze, air pollution, and changing consumer patterns due to air pollution. To capture these secondary impacts, the Company assessed the risk of climatic conditions conducive to wildfires within a radius of 40km of CP Axtra assets. An additional screening was also conducted to assess if any green space that is prone to fire can be found within this buffer zone. 15 out of 22 assets that show a high or very high risk to wildfires are found with a green space (e.g., forest, grassland, farm, etc.) within the buffer zone.

[5] Wildfires and Climate Change - Center for Climate and Energy Solutions Center for Climate and Energy Solutions (c2es.org)

Scenario	Risk Level		Business Impact	Financial Implications	Adaptation Measures within 5 years
	2030	2050			
Best case (SSP 1-2.6)			**Upstream** • Potential disruption to agricultural supply chain • Health and safety impacts to supply chain workers due to haze, air pollution **Direct Operations** • During wildfire events there may be disruptions to operations if conditions are not appropriate to work in. Evacuations of staff from site areas may be necessary which may lead to downtime and loss of revenue. • Outdoor operations may be affected by dust and smoke from fires in the vicinity. **Downstream** • Haze, dust particulates, and residual heat is likely to reduce foot traffic from local customers as well as tourists	**Increased direct costs –** additional costs on air purification and mitigation measures, protective gear for employees. **Financial impact cost:** As a result of air pollution and dust particulates in the past, CP Axtra has incurred additional costs of ~142,000THB towards **health and safety of our employees.** **Decrease revenues due to reduced sales capacity** - Customers may be less likely to use non-essential commercial stores due to smoke and dust particulates, which can interrupt cash flow and damage businesses. **Financial impact cost:** In the worst case scenario, CP Axtra may incur additional costs of 2.1 million THB towards the	• For existing and new operating assets, to develop business continuity plan and measures that responds to secondary risks of wildfire, including but not limited to water spraying for cooling towers, supplementary air conditioning and purification, increased budget for cleaning and sanitation services against impact from dust particulates. • To develop a fire protection plan, including training for fire preparation at every store and distribution center. • In anticipation of seasonal wildfires, to increase stock on protective gear, such as protective masks, for employees and customers.
Worst case (SSP 5-8.5)			**Upstream** • Potential disruption to agricultural supply chain • Health and safety impacts to supply chain workers due to haze, air pollution **Direct Operations** • Disruptions to operations if conditions are not appropriate to work in. Evacuations of staff from		

		site areas may be necessary which may lead to downtime and loss of revenue. • Outdoor operations will be affected by dust and smoke from fires in the vicinity for an extended period of time, potentially leading to increases in operational disruptions due to health and safety concerns for employees. **Downstream** • Haze, dust particulates, and residual heat significantly reduce foot traffic from local customers as well as tourists, especially where haze extends for several months.	health and safety of our employees (1.25million THB for Makro assessed sites and 0.85million THB for Lotus's assessed sites)	

Note: Risk level colors correspond to risk level ratings in Table 3

Climate-Related Scenario Analysis

Following the identification and assessment of climate-related risks and opportunity, CP Axtra conducted a financial analysis to identify potential financial impacts from three of the Company's most material risks, which are carbon price, extreme heat, and water stress. By using a set of defined climate scenarios (as detailed in Table 2), the Company developed specific assumptions to model and quantify the financial implications of these risks on its business operations.

Carbon Pricing Mechanisms

The carbon price was assessed using key input data from the IEA Global Energy and Climate Model, which provides estimation of climate-related costs under various transitional scenarios. Under the IEA Stated Policies Scenario the carbon price for Asian economies is projected to reach $70.5 USD per tonne of CO_2 by 2050[6]. Conversely, the Net Zero Emissions by 2050 Scenario (NZE) outlines the carbon price at 500 THB per tonne of CO_2 for emerging markets and developing economies with net-zero emissions commitments. These projected prices were then applied to CP Axtra's estimated Scope 1 and 2 emissions in 2050 which was derived from the Company's current emissions and estimated percentage increase and decrease over time as the business grows and adopts more low-carbon solutions. The methodology assumes that CP Axtra will reduce its Scope 1 and 2 emissions in alignment with its decarbonization pathway, achieving a 90% reduction by 2050 compared to the 2022 baseline for scope1&2, 2025 baseline for scope 3. The estimated financial impact was calculated by multiplying the projected emissions in 2050 with the carbon price in 2050, then converting the amount to Thai Baht.

Table 4 Carbon Pricing Mechanisms – Data input

Variables	Data Input	Remarks
Current Carbon Emissions	GHG emission (t-CO2e)	Emissions for 2030, 2040, and 2050 are estimated based on the reduction targets and trajectories, calculated using the Compound Annual Growth Rate (CAGR) against the latest available data from 2022.
Carbon emission increase over time	GHG reduction target in 2030 & 2050 (%)	The reduction targets are used to calculate the Scope 1 and Scope 2 (market-based) emissions for 2030 and 2050, measured against the 2022 based year.
Carbon pricing over time under net zero scenario	Carbon Price	Carbon price assumptions are sourced from the IEA Global Energy and Climate Model and vary by scenario. STEP, and NZE represent different policy and ambition levels, with higher ambition scenarios (NZE) reflecting steeper price escalations to drive faster decarbonization. These values are applied to estimate the potential financial exposure of Scope 1 and Scope 2 emissions under 2050.

[6] Carbon price for STEPS scenario is calculated from the average of carbon price for China and South Korea in 2050 due to lack of data for Thailand.

Table 5 Climate-Related Scenarios and Results

Scenario	Scope 1 and 2 emissions in 2050 (tCO2e)	Carbon price THB/tonne CO_2 in 2050	Carbon offset (THB)[7] in 2050
IEA STEPS	82,572.04	300	205 million Baht
IEA NZE		500	582 million Baht

Extreme heat

Three risks relating to extreme heat was analyzed, which are Increased electricity cost from greater cooling load, Increased equipment service/maintenance cost, and Increased capital expenses (depreciation) due to shorter equipment life. Assumptions used in the calculation are as followed:

Table 6 Assumption Applied for Extreme Heat

Risk	Assumption
Increased electricity cost from greater cooling load	The cost of electricity was projected from a 2024 baseline, with inflation being accounted for. An assumption was then applied that electricity consumption increases by 4% for every 1°C rise in temperature. This was combined with the average temperature increase data from CIMP6 and the portion of electricity used for cooling and refrigeration. The estimated financial impact was calculated by multiplying the projected electricity cost for cooling by the expected increase in electricity consumption based on the average temperature increase.
Equipment service/maintenance cost	2024 baseline annual maintenance cost was projected forward to 2050, including adjustments for inflation. Failure rates for electronics, refrigeration, and cooling equipment were estimated using a simplified Arrhenius relationship, often applied in electronics reliability as the 10 °C acceleration model, which assumes rates double with each 10 °C rise in temperature. Under temperature increase in the SSP scenarios, these projections show up to a 3-7% increase in failure rates by 2050 with the temperature increase of 0.4-1 degree Celsius. The temperature increases from CMIP6 were applied to model the compounding impact on equipment reliability and costs. The increase in maintenance cost was estimated by multiplying the projected number of failure events from increasing temperature by the inflation-adjusted maintenance cost.
Fixed loss due to shorter equipment life	The depreciation calculation starts with a 2024 baseline value for equipment, assuming a standard lifespan of 10 years under normal conditions. To reflect climate impacts, studies on higher ambient temperatures and faster electronic failure are factored in, using temperature projections under the SSP scenarios. This scenario projects a 0.4-1°C rise by 2050, which is expected to shorten equipment life by up to 6.7%. Applying this reduced lifespan to the baseline allows the higher depreciation rate to be estimated. The estimated

[7] The exchange rate is 35.28 baht per USD, which is the average exchange rate across 2024.

	financial impact was calculated by multiplying the value of equipment at risk with reduction of equipment life from the lifespan in normal condition.

Table 7 Extreme heat – Data input

Variables	Data Input	Remarks
Current Electricity Cost	Electricity cost for Thailand operations (THB)	Electricity cost baseline is established for Thailand operations in 2024 and projected forward to 2050 based on calculation considering inflation rate. This serves as the reference point for quantifying the financial impact of electricity consumption changes due to climate-related factors
Portion of Electricity Used for Cooling	Portion of electricity used for refrigeration and cooling (%)	Based on industry benchmarks, the average share of electricity allocated to these functions is ~38%. This assumption is used to isolate the portion of costs most sensitive to rising temperatures.
Factor of Electricity Consumption Increase due to Temperature Change	Electricity consumption increases per degC increase (%)	Literature indicates electricity demand rises with higher ambient temperatures due to increased reliance on AC and refrigeration. CP Axtra applies an average 4% consumption increase per 1°C temperature rise, derived from Singapore and Hong Kong studies, as a proxy for regional applicability.
Average increase of temperature in each scenario	Average increase of temperature (degC)	Temperature projections are aligned with CMIP6 and IPCC WGI scenarios. Average temperature increases of 1.2–1.5°C (SSP1-2.6) and 1.3–2.1°C (SSP5-8.5) are applied for 2021–2060, forming the basis for stress-testing electricity cost exposure under different climate pathways.[8]
Value of equipment at risk	Value of equipment at risk (THB)	The value of equipment is assumed to be constant at 2024 levels due to data limitations. While actual values may vary with purchase or renewal, ERM holds equipment-at-risk in 2050 equal to the baseline for consistency.

[8] The projected temperature increases of 1.5 °C and 2.1 °C are expressed relative to the pre-industrial baseline (1850–1900), not from the present day. To calibrate this, CP Axtra adjusted the values by subtracting the current observed warming of approximately +1.1 °C above pre-industrial levels (as of 2023, IPCC AR6). This approach ensures that the results reflect the additional warming expected under each SSP pathway relative to today's conditions, rather than restating the total increase since pre-industrial times.

Increase in equipment failure	Increase in fail rate and maintenance (%)	Failure rates are assumed to rise with temperature increase, based on studies linking electronics reliability to ambient heat. Projections show up to ~7% higher failure rates under SSP5-8.5 by 2050, affecting AC, refrigeration, and generic electronics.
Maintenance costs	Maintenance cost per year (THB)	Baseline annual maintenance cost in 2024 is projected forward to 2050 based on calculations considering inflation rate. This provides the cost reference for estimating future maintenance burden as equipment failures increase.
Reduction in equipment life in high temp	Reduction in equipment life (%)	Studies show that higher ambient temperatures accelerate electronic failure. Equipment life is projected to shorten by ~3% under SSP1-2.6 (+1.5°C) and ~7% under SSP5-8.5 (+2.1°C) by 2050.
Equipment life in normal condition	Reduction of equipment life (year)	Baseline equipment life is set at 10 years under normal operating conditions, serving as the reference point for calculating reductions under temperature stress.

Table 8 Increase Electricity Cost from Greater Cooling Load

Risk	Estimated Impacts	
	SSP 1-2.6	**SSP 5-8.5**
Increased electricity cost from greater cooling load	18 million Baht	46 million Baht
Increased equipment service/maintenance cost	111 million Baht	116 million Baht
Increase capital expense due to shorter equipment life	31 million Baht	77 million Baht

Water stress and drought

The financial impact from drought was calculated by using CP Axtra's water usage and water cost in 2024 as a baseline for potential increase in operational expense from increase in water price in period of drought. Representative Concentration Pathway (RCP) 4.5 and 8.5 were used to inform the expected number of consecutive dry days of 30 and 40 days respectively[9]. A 35.8% increase in water tariffs based on overseas rates during times of water stress was applied as a proxy for potential price surges.

[9] RCP is used to estimate the financial impact from water stress and drought, although it is not used for the risks and opportunities identification.

The approximated water cost and percentage increase in water tariffs were multiplied with the number of consecutive dry day to estimate the financial impact from increase in water cost.

Table 9 Water Stress and Drought – Data Input

Variables	Data Input	Remarks
Daily water usage	Daily water usage in Thailand (m^3)	Calculated as a weighted average across retail and warehouse sites, based on site count and average daily consumption per site.
Daily water cost	Daily water cost in Thailand ($/$m^3$)	Weighted average unit cost derived from site-level data, reflecting the combined baseline cost exposure across all Thailand operations, also forward to 2050 using Thailand's historical inflation rate.
Percentage increase in cost of water during periods of water stress	Water tariff increase (%)	Water tariff increases are assumed at 35.8% during stress periods, using reference data from Sydney Water's tariff review as a proxy. This reflects potential surcharges or scarcity-driven cost escalation.
Number of days experiencing increased water costs due to water stress	Drought period (days)	Drought periods are expressed as Consecutive Dry Days (CDD) **at the end of century.** Projections suggest 30 days under RCP 4.5 and up to 40 days under RCP 8.5, reflecting significant operational cost risks in northern and central Thailand.

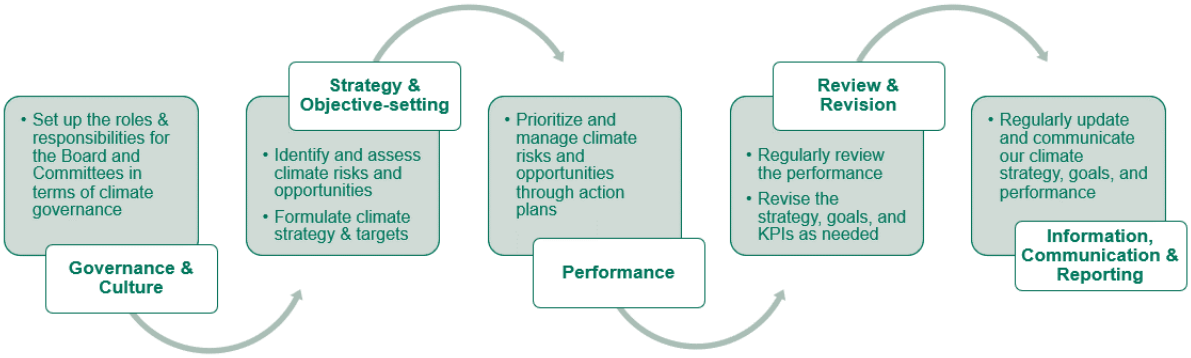
Table 10 Increase in Cost of Water

Scenario	Consecutive dry day	Increase in water cost
RCP 4.5	30	5.1 million Baht
RCP 8.5	40	6.8 million Baht

Climate Change Risk Management

Having completed the climate change risk assessment, CP Axtra adopts COSO international standard to guide its risk policies, objectives, management frameworks, and management structure.
See **Figure 4** for how climate change risk and opportunity are integrated in the Company's Enterprice Risk Managment system.

Figure 4 Climate Change Risk Management in the COSO ERM Framework



Climate change as a cross-cutting theme is well embedded in this COSO ERM Framework. CP Axtra has established robust climate governance, as described in the **Governance** section of the report. Under the **Strategy & Objective Setting** pillar, a comprehensive climate change risk assessment was conducted and introduced above diagram. The climate-related risks and opportunities is identified over the short, medium, and long term. The findings of the climate change risk are considered as different climate-related scenarios as 1.5°C and related scenarios. The impact of climate-related risks and opportunities are considered and prioritized as corporate risk management and mitigation action integrated to business strategy and financial planning such as CAPEX, OPEX for climate resilience strategy including opportunity for low carbon product or new business i.e carbon capture plant etc.

The climate risk strategy framework which outlines the Company's climate-related targets, pillars and key initiatives has been formulated by the Climate Resilience Working Group and endorsed by the Sustainability Development Committee (see next section for more information). Meanwhile, under tracking of **Performance,** the Company has made climate action plans, informed by the climate change risk assessment and the climate strategy framework, to prioritize the risk items and **response** measures also focus on in the short, medium, and long term. The Climate performance has been and will continue to be regularly tracked by key performance indicators (KPIs) and incentive for CEO and executive team. The performance will be **reviewed** annually by the board level at least twice per year. The annual climate resilience's performance is disclosed on company's sustainability website at and at link annual CDP Report cdp-report-en.pdf.

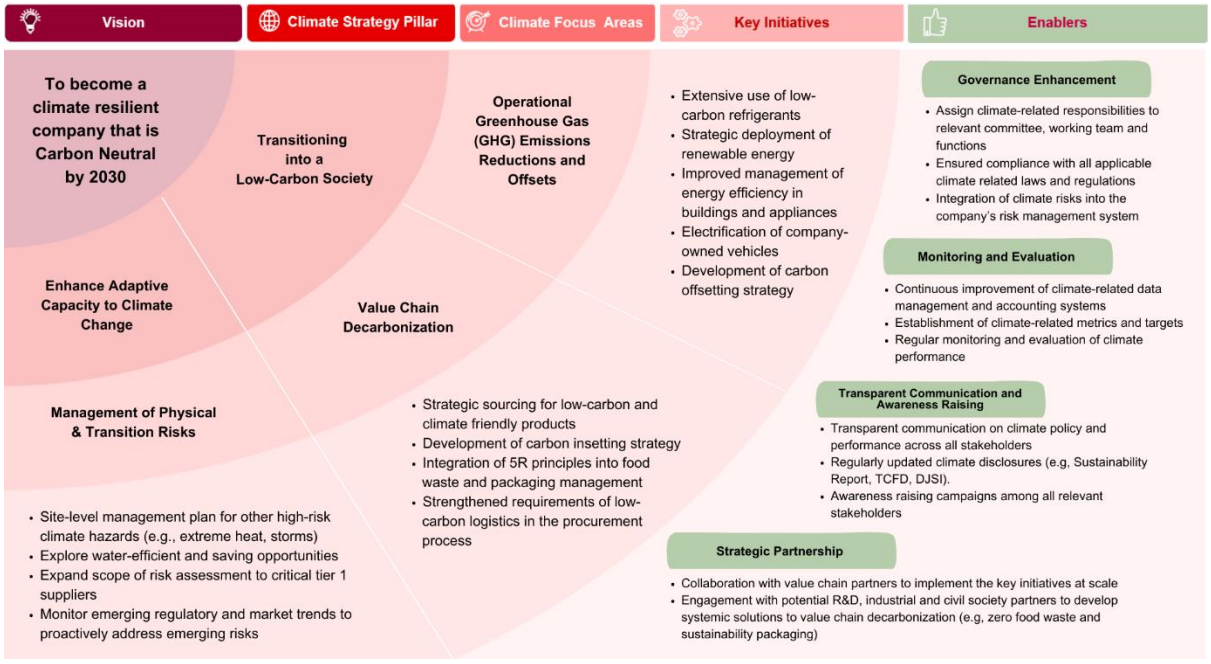
Climate Strategy Framework

Considering the climate change risks and opportunities results, CP Axtra has sought to develop a climate strategy framework that adequately and holistically addresses the key risks and pursue opportunities identified. As such, the core theme of "becoming a climate resilience company" against climate-related risks is central to CP Axtra's climate strategy, as indicated in **Figure 5**.

As carbon tax has been identified as a major risk to CP Axtra's businesses, decarbonization efforts within direct operations and across the value chain is therefore a priority for the Company to manage this risk. Nevertheless, CP Axtra has also identified key opportunities to the business through its decarbonization efforts, including cost savings due to energy efficiency and the increased uptake of renewable energy. Combined, these are the key drivers behind one of the Company's two climate change strategy pillars: "**Future Proof our Business in a Low-Carbon Economy Transition".** Within this pillar, the Company's most important milestone target is to achieve short term goal as Carbon Neutral of its scope 1 & 2 by 2030. In the long term, CP Axtra is committed to aligning the Company's climate strategy with its parent company, Charoen Pokphand Group. This includes pursuing Net Zero emissions by 2050 in alignment with Science-based Target initiative.

From the physical risks assessment, the Company also found that, without mitigation measures, assets under CP Axtra are highly exposed to several natural hazards. Consequently, the Company has also prioritized the mitigation of these physical risks as its second climate strategy pillar, **"Enhance Adaptive Capacity to Climate Change",** which will not only strengthen the physical resilience of CP Axtra's assets, but also its business value chain and people.

Figure 5 CP Axtra's Climate Strategy Framework



Internal Carbon Price (ICP)

Additionally, CP Axtra has explored applying Internal Carbon Pricing (ICP) in the future to drive low-carbon decisions. As of 2025, the Thai governance has announced a Carbon Tax of 200 Baht per ton of CO_2 emissions for oil products, integrated into the existing excise tax system. The Company plans to apply this carbon price to our own operation in the future because the majority of its Scope 1 and 2 emissions, as well as revenue, are based in Thailand. CP Axtra intends to adopt a shadow price scheme for Scope 1 and 2 emissions, with the primary objectives to account for carbon tax and regulatory cost, promote low-carbon investments, and to proactively plan its financial and operational responses

accordingly. This approach will further support the Company's long-term pathway toward achieving carbon neutrality in 2030 and net zero in 2050.

Table 11 CP Axtra's ICP Mechanism

Objective	The primary objective of introducing an internal carbon price is to incentivize the consideration of climate-related issues in decision making and to influence corporate strategy and financial planning. By embedding a carbon cost into core business processes, CP Axtra aims to enhance climate resilience and ensure that investment and operational decisions are aligned with its decarbonization goals
GHG scope covered	Scope 1 and Scope 2
Type of ICP Price	Shadow Price 200 THB/ CO_2e
Application	The internal carbon price is applied within the business decision-making process as a tool for guiding both strategic and financial planning on Company's low-carbon initiatives. While initially integrated into selected business processes, CP Axtra is committed to progressively expanding this application of this mechanism across all relevant business decisions making processes.

Transitioning into a Low-Carbon Economy

Given CP Axtra's ambitious target to achieve carbon neutrality by 2030 and its broader aspirations for net zero emissions in alignment with international climate commitments, the Company is prioritizing energy efficiency and renewable energy across its operations. Below are CP Axtra's current initiatives and the resulting carbon cost saving, all aimed at advancing low-carbon economy.

Table 12 Initiatives to Realize CP Axtra's Climate Strategy

Initiatives	Financial Investments	Outputs year 2025	Reduced/ Avoided cost of carbon per year	Total reduced/avoided cost of carbon[10]
Solar cell installation at sites	1,239 sites (increased 265 site from last year) Total investment = 1,239 million THB[11] Payback period of 10 years	Reduced fossil energy consumption: = 296,938 MWh (improved 21,152 MWh from last year) Energy cost saving = 112,950,798.00 THB per year (improved 19,667,586.00 THB from last year)Reduce Scope	28,524,987.00 THB per year (improved 4,604,172.12 THB)	Lifetime= ~20 years 570,499,740 THB

[10] The total cost reduction is assessed by calculating the annual projected savings from each initiative and considering these savings across the expected lifetime of the measure.

[11] Investments in solar panels installation are conducted through a Power Purchasing Agreement.

		2 emission of 142,624.89 tons CO2eq. (improved 48,268.13 tons CO2eq.)		
Incorporation green refrigerants and water loop cooling systems during the construction phase for 20 new store locations.	170 stores (increased 150 sites from last year) Total investment = 400 million THB Payback period of 7 years	Avoid Scope 1 emissions of 9,250.70 tons of CO_2 eq.	7,622,428 THB/ per year	Lifetime= ~20 years 152,448,560.00 THB
Training for internal technical awareness and capacity	Total investment = 10 million THB per year	Increased awareness and drive for climate change	-	-
Electric vehicles	201 EV for delivery and 867 EV forklift, Total = 1,068 units Total investment = Lotus's = 7 million THB (572 units) Makro = 49 million THB (322 units)	Reduced emissions from mobile combustion 8,933.53 tons of CO_2 equivalent in 2024	1,786,706.00 THB/ per year	Lifetime= ~12 years 21,440,472.00 THB
Installation energy saving equipment	Makro = 88 million THB Payback period of 10 years	Reduced energy consumption of 1,338.25 kWh in 2024, which is 0.67 tons of CO_2e	134.80 THB/ per year	Lifetime= ~15 years 2,006.97 THB
Low-carbon logistics	• Currently limited direct investment as CP Axtra owns few vehicles. • Potential future costs from major capital investments in low-carbon transport (EV fleets, renewable/clean fuels, infrastructure upgrades).	• Limited reduction to date since emissions sit mainly with logistics partners. • Future potential through partnerships and adoption of cleaner transport solutions.	-	-

Over the past five years, the Company has steadily expanded the capacity of its renewable energy initiatives across its own assets. These include solar streetlights (annual reduction of 36,500 kWh),

solar-generated thermal energy (126,000 kWh/year), and rooftop solar systems. In 2024, self-generated renewable energy amounted to 87,113.62 MWh, comprising 13,174.97 MWh from solar panels at Lotus's sites and 854.24 MWh from Makro's sites. In addition, both Makro and Lotus are advancing renewable electricity procurement through power purchase agreements (PPAs), particularly from solar PV. Under these agreements, contracted solar panels supplied 195,427.56 MWh in 2024 (57,370.79 MWh for Makro and 134,192.38 MWh for Lotus).

Moving forward, transportation and delivery are expanding into the use of electric vehicles and hydrogen-powered trucks across operations to further reduce emissions generated in mobile combustion. In 2024, the 847 EV are operating.

In addition, CP Axtra's retail and wholesale operations are significant users of cooling and refrigeration systems. The Company has identified green refrigerants, or refrigerants with low GWPs, as an opportunity to reduce our Scope 1 emissions. CP Axtra's initial effort involved 20 sites, with 20 million THB of investment per facility to switch from conventional to green refrigerants. The expected payback period was estimated to be seven years.

Awareness and Motivation

Supporting the Company's journey towards emissions reduction are the employee's initiative within CP Axtra – particularly from their awareness and drive for climate action. Across Makro and Lotus's operations, 10 million THB in 2024 has thus been invested in developing internal technical awareness and capacity related to climate change. The Company also holds an annual "Excellence in Energy Management Awards" program to support its carbon neutral target, which is categorized into two award types: "Energy Saving Awards" and "Water Stewardship Awards", which looks at key metrics related to consumption, savings, and intensity.

Beyond its own operations, CP Axtra will also seek collaborative efforts with its suppliers and customers to decarbonize the Company's value chain and enhance business resilience in a low-carbon world. From this initiative, the Company aims to prioritize sustainable sourcing of raw materials through transparency and traceability, which will build the foundation towards developing and launching credible low carbon products. In addition, CP Axtra has identified low-carbon logistics to be an opportunity for CP Axtra moving forward, which can be pursued in parallel to existing initiatives to decarbonize the fleet within its operations. For more information, please see the Company's initiatives on climate resilience, sustainable packaging, and responsible supply chain management in CP Axtra's website at climate resilience performance and target at link action-and-result-en.pdf (page 8).

Enhance Adaptive Capacity to Climate Change

In light of its physical risks assessment, water resources management is a critical pillar in CP Axtra's adaptive measures against climate change. The Company has sought to mitigate these risks through conducting site-level water stress risk assessments, where it found that **73%** of its water consumption was from water stress areas. The Company has also extended such risks assessments to its **93%** of Critical Tier 1 suppliers, are located in water stressed areas. As such, a focus area under this pillar will drive water stewardship within CP Axtra's operations and its supply chains. The Company's current work on water stewardship can be further explored the CP Axtra's website - water stewardship at link action-and-result-en.pdf . Another key action item under this pillar will be to strengthen its management and response plans at site level to include a wider range of natural hazards over the next several years.

To holistically address and adapt to the potential risks of climate change, CP Axtra will also need to be proactive in monitoring changes in the market based on consumer demand as well as the changing regulatory landscape at both the regional and national level. Consumer trends and regulatory changes, including increasing policies on plastics, have currently been identified as future risks but have the potential to become opportunities, as these trends have been identified early and initiatives are being implemented across the Company.

Further information can be found in CP Axtra's environmental-policy-en.pdf document which outlines the Company's approach to climate change management.

METRICS AND TARGETS

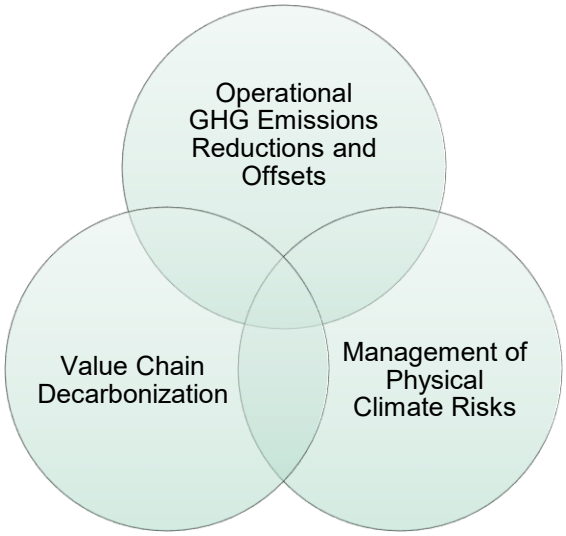
To effectively operationalize its climate strategy and track progress towards the aspirations set forth, CP Axtra has set the targets and key performance indicators in different time horizons for the focused climate topics of the Company. The Company believes that setting annual performance targets as its interim progress is essential to the success of our 2030 Sustainability Targets. Building on this approach, CP Axtra has recently improved its GHG reduction targets to align with the Company's Net Zero ambition and to prepare for validation by the SBTi. This includes setting additional deforestation target for the SBTi FLAG sector. More information on the progress of CP Axtra's annual targets is detailed in the Climate resilience chapter at link Environment (Home) | CP Axtra in our website. In terms of climate-related targets, the Company's two prioritized areas across climate risks identified are in GHG emissions mitigation and water stress, due to their direct impact on the Company's operations. The targets and corresponding metrics used for key performance indicators (KPIs) are summarized in Table 10.

Table 13 Metrics and Targets

Risk Type	Carbon Emission Reduction Targets	Metrics and KPI Measurement
Transition risk	Short – Medium term target: to be **Carbon Neutral** for the organization's operation (Scope 1 and Scope 2)	▪ Achieve GHG reduction of scope 1 and 2 emissions by 42% by 2030 from a 2022 baseline ▪ Achieve GHG reduction through renewable energy usage by 25% by 2030 ▪ Achieve GHG reduction through adoption of green refrigerant by 15% by 2024 (achieved) ▪ Achieve GHG reduction through adoption of electric vehicles by 5% by 2030 ▪ Offset remaining GHG emissions via carbon credits (5%) and carbon absorption (5%) by 2030
	Medium – Long term target: To be **Net Zero Emission** (Scope 1, 2 and 3 reduction by 90%)	▪ Achieve GHG reduction of scope 1 and 2 emissions by 90% by 2050 from a 2022 baseline ▪ Achieve GHG reduction of scope 3 emissions by 90% by 2050 from a 2025 baseline ▪ Achieve GHG reduction through renewable energy usage by 90% by 2050 ▪ Achieve GHG reduction through adoption of green refrigerant by 20% by 2050 ▪ Achieve GHG reduction through adoption of electric vehicles by 15% by 2030
	SBTi sector specific targets: To reduce scope 3 (FLAG) emission to residual level and achieve Net Zero Emission	▪ Achieve GHG reduction of scope 3 (FLAG) target by 30.3% by 2030 ▪ Achieve GHG reduction of scope 3 (FLAG) emissions by 72% by 2050
Physical risk	**20%** reduction in water withdrawals per net revenue compared to the 2020 baseline	• 20% reduction of water withdrawals per net revenue • 100% of facilities are covered by water stress survey and have adaptation plan in place ready for implementation

To strengthen the quality of its data collection and measurement such that the Company is able to accurately track and evaluate our climate performance against the metrics and targets set forth, several established methodologies and standards have been introduced to CP Axtra's environmental accounting system, as shown in

Figure 6 CP Axtra's Climate Focus Areas, Relevant Methodologies and Standards



Methodologies and Standards

- Greenhouse Gas Protocol
- IPCC
- Emission factors from the Thailand Greenhouse Gas Management Organization (TGO) and the Energy Policy and Planning Office (EPPO), the Ministry of Energy

Due to its business expansion activity, CP Axtra's GHG emissions for the past five years show an inevitable increasing trend. The Company intends to gradually reduce the associated GHG emissions across its operations through the key initiatives outlined in CP Axtra's climate strategy framework as the Company progress towards its carbon neutral target by 2030.

Table 14 GHG Emission Data for CP Axtra

Emission	Unit	2022 (baseline year)	2023	2024	2025	Progress compared to baseline year
Total Scope 1 & 2 Emission						
Scope 1 & 2 (Market based)	Tons CO_2e	977,319.54	871,977.51	864,829.73	909,830.30	**6.91%**
Scope 1 & 2 (Location based)	Tons CO_2e	1,058,272.68	972,122.34	982,711.84	1,052,455.19	-
Direct GHG emission: Scope 1						
Total Scope 1 GHG emissions	Tons CO_2e	238,836.70	157,878.57	124,957.83	145,430.91	-
Scope 1: Refrigerant	Tons CO_2e	221,286.19	132,166.79	99,790.58	119,954.23	-
Scope 1: Fuel	Tons CO_2e	17,550.52	25,711.77	25,167.25	25,476.67	-

Indirect GHG emission: Scope 2						
Scope 2 GHG emissions (Market based)	Tons CO_2e	738,482.83	714,098.94	739,871.90	764,399.39	-
Scope 2 GHG emissions (Location based)	Tons CO_2e	819,435.98	814,243.78	857,754.01	907,024.28	-
Indirect GHG emission: Scope 3						
Other indirect Scope 3 GHG emissions	Tons CO_2e	7,066,583.83	7,946,386.87	24,139,476.36	22,953,083.00	-
Purchases of goods and services	Tons CO_2e	6,731,804.00	7,261,018.37	11,791,759.95	10,597,100.51	-
Purchases of goods and services (FLAG)	Tons CO_2e	n/a	n/a	6,094,417.24	5,311,817.62	-
Purchases of goods and services (Non-FLAG)	Tons CO_2e	n/a	n/a	5,697,342.71	5,285,282.89	-
Capital goods	Tons CO_2e	n/a	4,158.00	37,960.87	54,348.42	-
Fuel- and energy-related activities (not included in scope 1 or scope 2)	Tons CO_2e	n/a	149,744.86	181,871.33	191,770.03	-
Upstream transportation and distribution	Tons CO_2e	105,365.34	128,127.13	264,790.27	244,890.96	-
Waste Generated in Operations	Tons CO_2e	n/a	24,679.35	32,407.75	21,423.00	-
Downstream Transportation and distribution	Tons CO_2e	n/a	n/a	1,242,585.84	1,282,266.97	-
Employee commuting	Tons CO_2e	227,659.38	233,125.13	236,169.89	264,547.35	-
Business air travel	Tons CO_2e	17,55.11	724.11	2,076.26	2,321.21	-
Processing of Sold Products	Tons CO_2e	n/a	n/a	1,020.25	864.33	-
Use of Sold Products	Tons CO_2e	n/a	n/a	10,123,583.53	10,098,151.11	-
End-of-Life Treatment of Sold Products	Tons CO_2e	n/a	6,111.77	11,232.46	5,405.45	-

Downstream Leased Assets	Tons CO_2e	n/a	217,432.92	214,017.97	191,614.09	-
GHG emissions intensity	Tons CO_2e/ million THB revenue	2.08	1.77	1.69	1.75	-

Remarks Reporting is based on Jan-Dec of each year. scope of target and report cover 100% business operation sites.

Scope 3 emissions for 2020 and 2021 covered two categories of emissions: upstream transportation and distribution, and business travel. In addition to the above-mentioned categories, the coverage of Scope 3 emissions in 2023-4 also included emissions from purchased goods and services, capital goods, upstream and downstream transportation & distribution, business travel, employee commuting and downstream lease due to improved data collection methods and readjust back to baseline year.

The Company is committed to limiting global temperature rise in the near to medium term to well below 2°C by achieving carbon neutrality in 2030, and in the long term to 1.5°C by reaching net-zero emissions in 2050. These commitments include absolute emission reduction targets and progress that cover all of the Company's business operations.

Table 15 Progress Against CP Axtra's Goals and KPIs

Our Goals	KPI Measurements	Progress in 2025*	2025 Target	2030 Target	2050 Target
Near team (2022-2025): Reduce Scope 1&2 emissions by 8% and increase renewable energy utilization ratio to 25%	% reduction of GHG scope 1&2 compared to 2022 baseline year	6.91% (or 67,489.24)	8% (or 78,185.56)	42% (or 410,474.21)	90% (or 879,587.59)
	- Scope 1 reduction (tons CO2 eq.)	93,405.80	2% (or 19,106.94)	20% (or 100,311.41)	22.5% (or 214,953.03)
	- Scope 2 reduction (tons CO2 eq.)	*Increased* 25,916.56	6% (or 59,078.63) ***	22% (or 310,162.79)	67.5% (or 664,634.55)
Mid term (2022 - 2030): Achieve carbon neutrality by 2030 by reducing Scope 1+2 emissions by 42% and Scope 3 emissions by 25%	% Increasing renewable energy utilization (MWh)	16.23% (or 307,046.97)	15%	25%	90%
	% reduction from green refrigerant usage compared to 2022 baseline year	45.79% (or 101,331.96)	15%	25%	20%
Long term (2030-2050): Net-zero carbon emissions by 2050 (reducing Scope 1+2 by 90% and Scope 3 by 90%).	% carbon absorption and offset	n/a	n/a	10% (97,731.95)	10% 97,731.95 from adsorption only)
	% reduction of GHG scope 3 compared to 2025 baseline year	n/a	n/a	25% (or 5,738,675.86)	90% (or 20,659,233.09)

Remarks: * Progress in year covers the performance during 1Jan – 31 Dec of each year

*** Same figure for both market and location based

Greenhouse gas emission 2020-2025

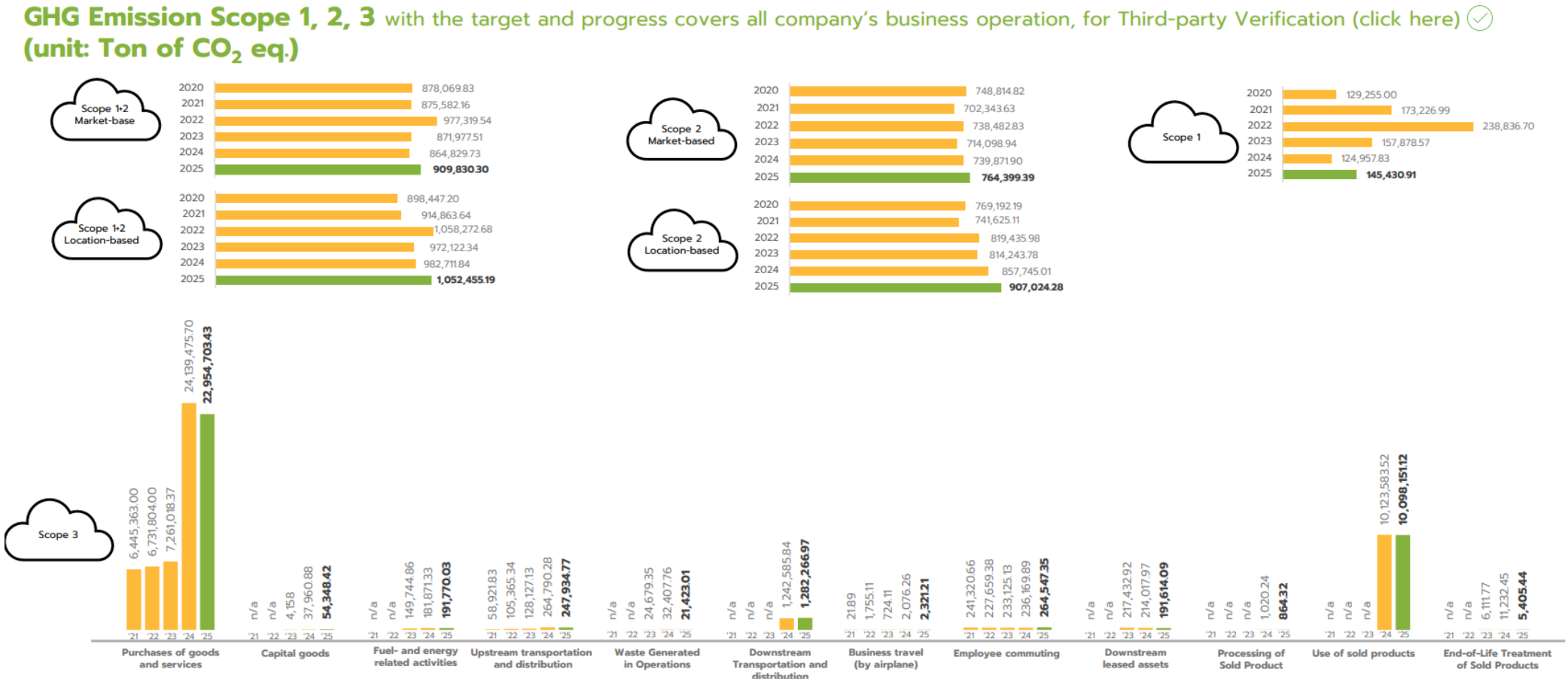


Figure 7 CP Axtra's Greenhouse gas emission 2020-2025

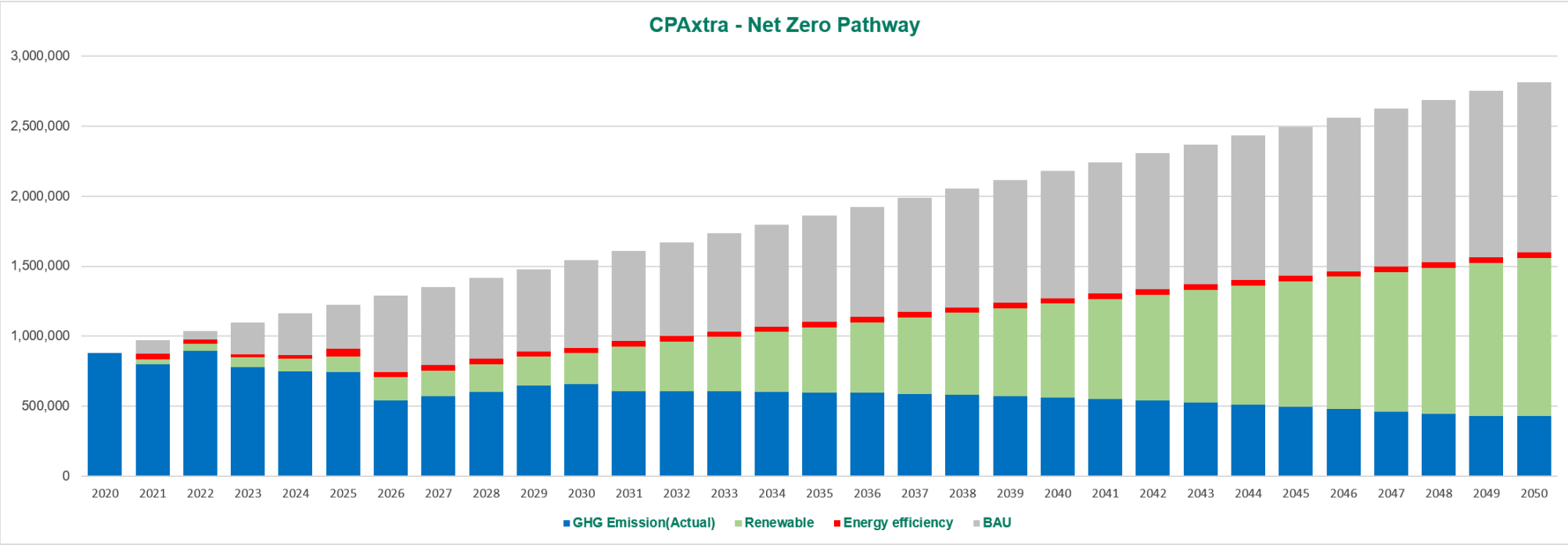


Figure 8 CP Axtra's Net Zero Pathway