

Task Force on Climate related Financial Disclosure (TCFD) REPORT 2026

*From Farm to Shelf, Thai Wah is strengthening climate resilience
and creating sustainable value across our value chain.*

Presented by TWPC Sustainability



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Introduction

Thai Wah Public Company Limited (TWPC) operates a fully integrated starch and food business with a “Farm to Shelf” value chain across the region. Headquartered in Bangkok, the Company operates production facilities and distribution networks in Thailand and overseas, with core businesses spanning starch products, food products, and biodegradable bioplastics.

In alignment with Thailand’s commitments under the Paris Agreement and its carbon neutrality and net-zero ambitions, climate resilience is a key component of the Company’s corporate strategy. Thai Wah has set a long-term ambition to **achieve Net Zero by 2050** across its value chain and is developing a decarbonization pathway covering baseline emissions, interim targets, and reduction levers across Scope 1, 2, and 3.

The Company assesses climate-related risks and opportunities across relevant scenarios and time horizons, focusing on potential impacts on its agricultural supply chain and processing operations. These assessments are progressively integrated into enterprise risk management and strategic planning.

This report has been prepared with reference to the **TCFD Recommendations and, where applicable, IFRS S2 Climate-related Disclosures**. It provides a baseline of Thai Wah’s approach to climate-related Governance, Strategy, Risk Management, and Metrics and Targets, while outlining ongoing efforts to strengthen climate resilience and advance its net-zero ambition.

The scope covers Thai Wah Public Company Limited, its subsidiaries, and selected production assets. Greenhouse gas verification boundaries and coverage are detailed in the Thai Wah Greenhouse Gas Emissions Breakdown section. The Company will continue to enhance its climate-related disclosures as its net-zero pathway and management practices develop.



MISSION STATEMENT

NET ZERO 2050

Building a resilient, low-carbon value chain from Farm to Shelf



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Thai Wah Climate Governance Statement

(TCFD-Aligned and Prepared with Reference to IFRS S2)

This section describes the governance structures and oversight mechanisms Thai Wah uses to manage climate-related risks and opportunities. At Thai Wah, the Board of Directors maintains ultimate oversight and accountability for climate-related matters, including the integration of climate considerations into the Company's strategic direction, sustainability objectives, and long-term value creation. The Sustainability Committee, under the Board's oversight structure, regularly reviews significant climate-related risks, opportunities, performance indicators, and strategic initiatives, and provides recommendations to support informed Board-level decision-making.

Climate-related matters are integrated into the Company's risk management processes, strategic planning, and business performance monitoring systems. The Executive Committee is responsible for reviewing and approving sustainability policies, strategic directions, and implementation plans, ensuring that climate-related actions are appropriately aligned with business objectives, financial considerations, and resource allocation.

At the management level, the Sustainability Team, comprising senior representatives from relevant business functions, evaluates climate-related priorities, monitors progress, and coordinates implementation across the Group's operations and subsidiaries. Climate-related performance updates and material developments are reported to relevant Board-level committees at least once annually, or more frequently when significant climate risks, regulatory changes, or strategic considerations arise.

The Sustainability Department serves as the central coordination function for climate-related performance monitoring, disclosure preparation, and alignment with relevant international sustainability reporting frameworks. Operational implementation is supported by dedicated functions, including the Supply Chain Team, Innovation Team, and Research and Development Team, which integrate climate considerations into operational processes, value chain management, and product innovation initiatives. This collaborative approach enables Thai Wah to strengthen climate resilience and support the transition toward a low-carbon business model across its value chain.



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Scope of This Report

This report covers Thai Wah's direct manufacturing and agricultural operations across value chain in Thailand, Vietnam, and Cambodia. It also considers material climate-related risks and opportunities across the value chain.

Report Structure

The Strategy section has been further enhanced to include site-specific assessments of physical and transition climate risks, an adaptation investment framework, and a detailed Net Zero transition plan. These enhancements reflect multi year company data and provide greater operational detail to support climate related decision making and long-term resilience.



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Thai Wah's Value Chain



Thai Wah Public Company Limited assesses climate-related risks and opportunities across its value chain, covering upstream agricultural sourcing, direct operations, and downstream activities. The assessment considers relevant climate scenarios, dependencies, and potential impacts on business continuity, operations, and strategic objectives.

• Upstream: Climate-Resilient Agricultural Sourcing

Thai Wah sources cassava from smallholder farmers in Thailand, Vietnam, and Cambodia. The Company promotes responsible land use, soil health, water stewardship, and climate-resilient agricultural practices to strengthen supply resilience and reduce exposure to climate-related disruptions.

• Direct Operations: Operational Resilience and Resource Efficiency

The Company's food and starch processing facilities focus on water efficiency, wastewater management, renewable energy, and resource circularity to reduce operational exposure to climate-related risks and improve resource efficiency.

• Downstream: Sustainable Products and Market Opportunities

Thai Wah provides Food products, Food ingredients and biodegradable material solutions that support resource efficiency and evolving market demand for lower-impact products. Collaboration with customers and business partners further supports sustainable sourcing, packaging, and value chain resilience.



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1. Governance

The Board of Directors has ultimate responsibility for integrating climate strategy into Thai Wah's corporate governance framework and approving the Company's key sustainability and climate-related targets. To support the Board's oversight responsibilities, the Company has established various Board Committees in accordance with its corporate governance framework and good governance principles. The Sustainability Committee is responsible for regularly reviewing climate-related issues, performance metrics, and strategic initiatives before submitting its recommendations to the Board of Directors for consideration. Climate-related performance and material climate risks are formally reported to the Board at least annually, or on an ad hoc basis when significant policy developments or emerging issues require Board attention.

The Company's Double Materiality Assessment, encompassing both Impact Materiality and Financial Materiality in accordance with GRI 3 (Version 2021), is reviewed at least annually and submitted to both the Sustainability Committee and the Board of Directors for review and approval. Through this assessment, Climate Change Mitigation, Decarbonization, and Energy Transition has been formally confirmed as one of the Company's material ESG topics.



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Board Committees and Climate related Responsibilities

Table 1 Board Committees and Climate-Related Responsibilities

Management Committee/Individual	Climate-related Roles and Responsibilities	Meeting Frequency
Board of Directors	Holds ultimate accountability for nature-related dependencies, impacts, risks and opportunities Provides ultimate oversight of climate governance. Approves the Company's Net Zero commitment, climate strategy, and climate-related targets. Reviews material climate-related risks and opportunities at least annually. Oversees the integration of climate-related performance into executive remuneration and approves the Company's strategic direction.	At least annually
Strategy, Sustainability and Innovation Committee	Oversees Climate strategy, Sustainability implementation, material risks and opportunities, and climate change-positive initiatives.	At least annually
Audit, Risk and Corporate Governance Committee	Oversees the integration of Climate-related risks into the ERM framework and reviews risk management and internal controls.	At least annually
Nomination and Remuneration Committee	Oversees executive accountability through ESG-related performance evaluation and remuneration.	At least annually



Management Level Climate Governance

Table 2 Management-Level Climate Governance

Management Committee/Individual	Climate-related Roles and Responsibilities	Meeting Frequency
Chief Executive Officer (CEO)	Leads the execution of the Company's climate and sustainability strategy. Ensures the integration of climate-related considerations into business planning and operations. Allocates resources and promotes cross-functional collaboration to achieve climate and sustainability objectives. Reports progress and material climate-related matters to the Board and relevant Board Committees.	At least annually
Sustainability Department	Develops and implements climate and sustainability strategies, programs, and initiatives. Coordinates climate risk assessments, scenario analysis, greenhouse gas management, and decarbonization initiatives. Monitors and reports climate-related KPIs and ESG performance. Coordinates with internal and external stakeholders and supports climate-related disclosures in alignment with TCFD, IFRS S2, GRI, CDP, and other relevant frameworks.	Quarterly



Climate Related Public Policy Engagement

Beyond internal governance structures, the Board recognizes that the Company's external policy engagement must be consistent with its climate commitments. As a leading Food company in Southeast Asia, Thai Wah recognizes that proactive engagement in climate-related public policy is vital to accelerating the transition to a low-carbon, resilient agricultural and food ecosystem.

To drive meaningful impact, the Company actively collaborates with public and private stakeholders, including its participation in the UN Global Compact (UNGC), Thailand Carbon Neutral Network (TCNN) and other regional sustainability alliances. The Company expects all trade associations and industry coalitions with which it is affiliated to align their climate policy positions with the Paris Agreement. Where misalignment occurs, the Company will engage constructively to advocate for science-based targets, and reserves the right to review, suspend, or discontinue its membership if alignment cannot be achieved.

To ensure that its advocacy supports a sustainable transition, Thai Wah operates under a structured management approach focused on four key pillars:

- **Policy Alignment Assessment:** Periodically review national public policies and the climate positions of the Company's trade associations to ensure they remain consistent with the Paris Agreement and the Net Zero 2050 roadmap.
- **Monitoring and Risk Management:** Continuously track global and regional climate policy developments to identify and mitigate risks related to policy shifts and association memberships.
- **Stakeholder and Value Chain Engagement:** Partner with government agencies, industry peers, and smallholder farmers to foster a shared understanding, promote sustainable agricultural practices, and advocate for progressive climate policies.
- **Transparency and Disclosure:** Publicly and transparently report Thai Wah's climate policy engagement activities, including the positions of key trade associations and any actions taken to address policy misalignment.

Through these commitments, Thai Wah ensures that its direct and indirect influence helps shape a transparent, science-based, and resilient future for the global food supply chain.



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2.Strategy

2.1) Identified Climate-related Risks and Opportunities

Cassava, the Company's primary raw material, is inherently sensitive to climate variability and changing weather patterns. Thai Wah has identified water scarcity, extreme heat, and tropical storms and flooding as the most significant physical climate risk drivers affecting its operations across Thailand, Vietnam, and Cambodia. Key transition risk drivers include the implementation of carbon pricing mechanisms, evolving climate-related regulations in both Thailand and export markets, and increasing customer demand for low-carbon and traceable raw materials.

From a financial perspective, these climate-related risks may adversely affect the Company's operating margins through fluctuations in raw material availability, crop yields, and procurement costs. Such impacts are expected to become more pronounced during periods of severe El Niño events, prolonged drought, and outbreaks of Cassava Mosaic Disease (CMD), all of which have the potential to significantly reduce cassava yields, disrupt supply continuity, and increase supply chain volatility.



2.2) Site-specific Physical Climate Risk Assessment by ThinkHazard

A site-level assessment of physical climate risks across Thai Wah's operational footprint and value chain, based on location-specific hazard exposure. The assessment was conducted using the ThinkHazard platform*, which provides location-specific information on exposure to natural hazards. <https://thinkhazard.org/en/by> the Global Facility for Disaster Reduction and Recovery (GFDRR Labs), World Bank Group.

Table 3 Site-Level Physical Climate Hazard Exposure by Facility

Hazard type	TWPC Bangkok/ Upstream/ Downstream	TWPC (Bang Len, Nakhon Pathom)	TWPC (Kalasin – Tha Khantho)	TWPC (Mae Sot, Tak)	TAPIOCA DEVELOPMENT CORPORATION LIMITED	THAI NAM TAPIOCA COMPANY LIMITED	Thai Wah Fuji Nihon Company Limited	Tay Ninh Tapioca JSC (TWPC/Thai Wah Vietnam)	TWPC INVESTMENT (CAMBODIA) CO., LTD.
River Flood	Medium	High	High	Medium	High	High	High	High	High
Urban Flood	Medium	High	High	High	High	High	High	High	High
Coastal Flood	High	n/a	n/a	n/a	High	n/a	n/a	High	High
Cyclone	High	High	Low	Low	High	Low	Low	High	High
Extreme Heat	High	High	High	Medium	Medium	Medium	Medium	High	High
Wildfire	High	High	High	High	High	High	High	High	High
Landslide	Very low	Very low	Very low	Medium	Medium	Low	Medium	High	High
Earthquake	Low	Low	Low	Low	Low	Low	Low	Medium	Low
Water Scarcity	Medium	Medium	Very low	Low	Low	Very low	Medium	Low	Low
Tsunami	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Medium	n/a

High
 Medium
 Low
 Very low
 n/a

* Hazard ratings are based on **ThinkHazard**, a World Bank GFDRR global hazard screening tool.



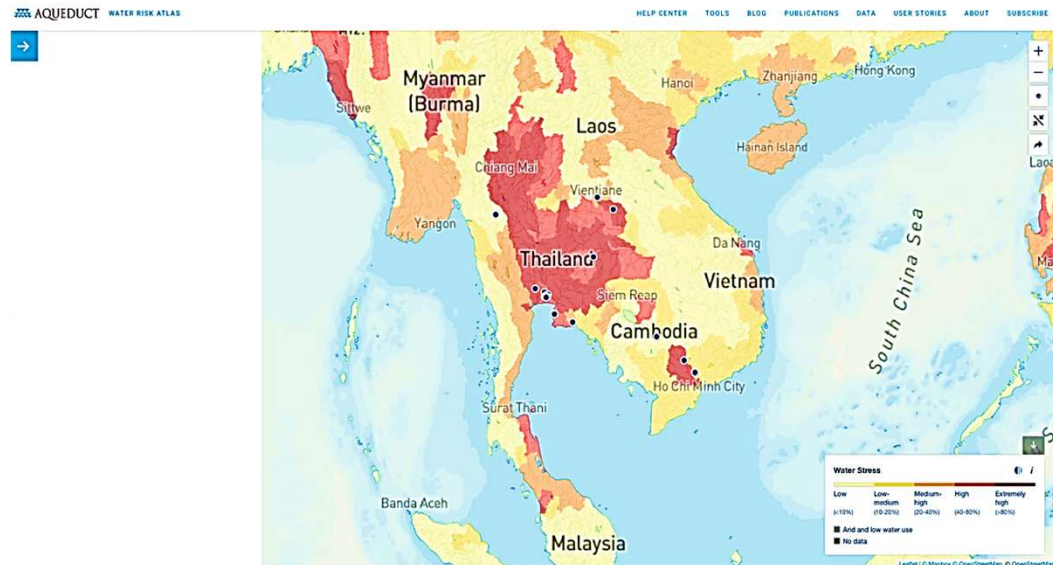
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2.3) Site-specific Water Stress Assessment by WRI Aqueduct v4.0, June 2026

As a pioneer in Thailand's Food sector, Thai Wah recognizes water availability as a key risk to its operations and agricultural supply chains. In 2026, the Company enhanced its water risk assessment using the WWF Biodiversity Risk Filter (BRF) and WRI Aqueduct Water Risk Atlas v4.0 (June 2026), complemented by on-site surveys covering physical and social conditions, resource sufficiency, water quality, and regional water demand.

The assessment identified three of the Company's ten own operation sites Bang Len, Kalasin, and Tay Ninh as located in areas of Extremely High Water Stress (>80%). These findings support the assessment of Risk 1.1: Water Availability, resulting in the Likelihood rating being revised from Possible (2) to Likely (3). Several logistics and distribution partners are also located in High to Extremely High Water Stress areas.



Overall, the findings are broadly consistent with the WWF BRF assessment and strengthen Thai Wah's prioritization of water-related risks across its operations and value chain, supporting targeted water stewardship, adaptation, and long-term resilience planning.



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Table 4 Thai Wah Value Chain Water Stress Assessment

Value chain	Location	Latitude	Longitude	Major basin	Country	Water Stress
Own Operations	Thai Wah Vietnam Company Limited	10.9947	106.6079	VN river basin (Dong Nai & Vàm Cỏ River)	Vietnam	Low – Medium (10-20%)
	Tay Ninh Tapioca Joint Stock Company, a subsidiary of Thai Wah Public Company Limited	11.3668	106.1186	VN river basin (Dong Nai & Vàm Cỏ River)	Vietnam	Extremely High (>80%)
	TWPC INVESTMENT (CAMBODIA) CO., LTD.	14.2535	104.0023	Mekong	Cambodia	Low – Medium (10-20%)
	Thai Wah Fuji Nihon Company Limited	15.1924	102.5017	Mekong	Thailand	High (40-80%)
	Thai Wah Public Company Limited (Kalasin – Tha Khantho)	16.8799	103.2663	Mekong	Thailand	Extremely High (>80%)
	THAI NAM TAPIOCA COMPANY LIMITED	17.3867	102.6251	Mekong	Thailand	Medium – High (20-40%)
	TAPIOCA DEVELOPMENT CORPORATION LIMITED	12.7435	101.1011	Gulf of Thailand Coast	Thailand	Medium – High (20-40%)
	Thai Wah Public Company Limited (Head Office – Bangkok)	13.7207	100.5396	Chao Phraya	Thailand	High (40-80%)
	Thai Wah Public Company Limited (Bang Len, Nakhon Pathom)	14.0160	100.1735	Chao Phraya	Thailand	Extremely High (>80%)
	Thai Wah Public Company Limited (Mae Sot, Tak)	16.8479	98.5880	Salween	Thailand	Low (<10%)
Upstream	Thai Containers Group Co.,LTD.(THAI CON)	14.2425	100.5134	Chao Phraya	Thailand	High (40-80%)
Downstream	Kerry Siam Seaport Co., Ltd.	13.1250	100.9154	Gulf of Thailand Coast	Thailand	High (40-80%)
	Laem Chabang Port	13.0863	100.8957	Gulf of Thailand Coast	Thailand	High (40-80%)
	Big C Supercenter Public Company Limited	13.7159	100.5858	Chao Phraya	Thailand	High (40-80%)
	CP Aextra Public Company Limited	13.7366	100.6272	Chao Phraya	Thailand	High (40-80%)
	CP ALL Public Company Limited	13.7277	100.5329	Chao Phraya	Thailand	High (40-80%)
	Bangkok Port (Khlong Toei Port)	13.6953	100.5901	Chao Phraya	Thailand	High (40-80%)
	CENTRAL FOOD RETAIL COMPANY LIMITED	13.9041	100.5281	Chao Phraya	Thailand	High (40-80%)

*Climate-related focus areas are informed by the **WRI Aqueduct Water Risk Atlas**, a globally recognized tool for assessing water-related physical climate risks.


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2.4) Global Warming Level Scenario Analysis



Thai Wah conducted climate scenario analysis using **IPCC AR6 Shared Socioeconomic Pathways (SSPs)**, translated into **Global Warming Levels (GWLs)** relative to the pre-industrial period, to assess transition and physical climate risks across three time horizons:

- **Short term:** Y2025 - Y2030
- **Medium term:** Y2031 - Y2040
- **Long term:** Y2041 - Y2050 and beyond

Scenario framework

- **SSP1-1.9 (1.5°C)** - Reflects a pathway broadly aligned with global net-zero ambitions by mid-century.
- **SSP1-2.6 (2°C) and SSP5-8.5 (>4°C)** - Alternative Scenarios: Used to test the resilience of Thai Wah's strategy under moderate to severe climate outcomes.

From **FY2025**, Thai Wah supplemented the **SSP analysis with NGFS** scenarios through Climate Analytics' Climate Impact Explorer (CIE, 2025 update):

- **Current Policies** - broadly comparable to SSP5-8.5
- **Net-Zero 2050** - broadly comparable to SSP1-1.9
- **Delayed Transition** - delayed climate action followed by accelerated transition

This enhancement enabled quantitative, country-specific physical hazard projections for Thai Wah's operations, which were not previously assessed on this basis.



Table 5 Assessment Time Horizons

Time Horizon	Period	Primary Climate-related Focus	Action plan
Short term	2025–2030	Erratic rainfall patterns disrupting cassava planting and harvest cycles; increased humidity potentially favoring the spread of Cassava Mosaic Disease (CMD) and its whitefly vector; flash flooding risk in the Chao Phraya River Basin affecting processing plants and logistics; raw material cost volatility; and increasing customer requirements for Scope 3 disclosure and traceability.	Supports regulatory preparedness, climate-related disclosures, and the implementation of internationally recognized climate management standards and certification programs, including ISO 14064-1, ISO 14067, GHG verification, and Carbon Footprint Organization (CFO) and Carbon Footprint of Product (CFP) certification, to strengthen short-term operational planning and compliance.
Medium term	2031–2040	Intensifying drought and water scarcity in Northeast Thailand, the Company's core cassava-sourcing region, potentially affecting cassava root yield and quality and contributing to a reduction in contract-farming areas as growers may shift to more drought-tolerant crops.	Supports the Company's evaluation of potential alignment with the Science Based Targets initiative (SBTi), investment planning for irrigation and drought-resilient cassava varieties, and medium-term capital planning.
Long term	2041–2050 and beyond	Cumulative heat and water stress under the SSP 5-8.5 scenario increasing the long-term risk to cassava supply security, potentially affecting the suitability and productivity of traditional sourcing areas.	Supports long-term strategic resilience, supply diversification, capital allocation, long-lived asset decisions, and the Company's pathway toward Net Zero emissions by 2050.

Time horizons are aligned with the Company's strategic planning cycle and sustainability commitments, including its Net Zero 2050 roadmap. The year 2030 represents a key strategic milestone for the Company's near-term sustainability and climate objectives.



2.5) Indicative Quantitative Assessment of Climate-related Financial Impacts

Thai Wah uses the 2°C scenario as a reference case and the >4°C scenario as a severe climate stress case to assess a range of potential climate-related impacts.

The quantitative estimates below are informed by the World Bank Thailand Country Climate and Development Report (CCDR) and reflect climate-sensitive agricultural systems relevant to Thai Wah's operations and sourcing activities. These estimates are illustrative and do not represent verified company-specific financial modelling or asset-level Value-at-Risk (VaR).

Table 6 Thailand Climate Scenario Impacts on Crop Yield, GDP, Flood Recurrence, and Water Deficit (World Bank CCDR)

Indicator	2°C Scenario (Reference)	>4°C Scenario	Reference
Rainfed cassava yield	Slight to moderate decline	Up to 12.4% reduction by 2040	World Bank Thailand CCDR (2025)
Irrigated crop yield	Slight decline	Up to 7.0% reduction by 2040	World Bank Thailand CCDR (2025)
Thailand GDP impact (2050)	Limited impact under a moderate warming pathway	Approximately -7% to -14%	World Bank Thailand CCDR (2025)
Chao Phraya River Basin flood recurrence	Approximately every 12–18 years (RCP4.5, 2040–2059)	Approximately every 5–7 years (RCP8.5, 2080–2099)	World Bank Thailand CCDR (2025)
Water deficit in the Eastern Economic Corridor (EEC)	Approximately 40% deficit under average hydrological conditions (2037)	Approximately 72% deficit during drought years (2037)	World Bank Thailand CCDR (2025)
Sensitivity of Thai Wah	Limited sensitivity, We proactively monitoring and apply mitigation plan primarily associated with potential changes in regulatory requirements, operating costs, technology, and market conditions.	Higher sensitivity under severe climate scenarios	Thai Wah internal financial analysis



2.5.1) Regional Physical Hazard Indicators under NGFS Scenarios

To extend the Company's physical risk assessment beyond Thailand, the following indicators were sourced from Climate Analytics' Climate Impact Explorer (2025), covering the Company's primary cassava sourcing geographies. Figures compare current climate conditions (2025 baseline, Climate Action Tracker current-policies pathway) against the same three Network for Greening the Financial System (NGFS) scenarios described in Section 2.4, evaluated at the year 2050. Values shown are the ensemble median, with the 5th–95th percentile range shown in parentheses to reflect model uncertainty.



Table 7 Physical Hazard Indicators by Country and NGFS Scenario, 2025 Baseline vs. 2050* (General Country Guidelines)

Indicator	Unit	Country	2025 Baseline (current climate)	NGFS Current Policies (2050)	NGFS Delayed Transition (2050)	NGFS Net-Zero 2050
Days with dangerous Heat Index (HI > 40°C)	days/year	Thailand	60	101 (71–134)	95 (67–127)	73(54–104)
		Vietnam	35	57 (41–80)	55 (38–75)	42 (31–60)
		Cambodia	86	133 (99–171)	127 (93–165)	102 (77–137)
Area under extreme drought (SPEI < -2)	% of country area	Thailand	35%	60% (30–82%)	57% (24–79%)	42% (17–70%)
		Vietnam	24%	38% (22–54%)	36% (19–52%)	27% (16–46%)
		Cambodia	36%	58% (21–81%)	55% (20–76%)	42% (14–66%)
Length of fire season	days/year	Thailand	66	72 (46–89)	72 (45–88)	70 (39–85)
		Vietnam	27	34 (26–38)	33 (25–38)	30 (23–38)
		Cambodia	78	86 (74–98)	85 (73–95)	82 (69–92)
River discharge	% change	Thailand	-1.5%	+2.3% (-6 to +15%)	+1.8% (-6 to +14%)	-0.1% (-7 to +12%)
		Vietnam	0.1%	+3.7% (-5 to +13%)	+3.2% (-5 to +13%)	+1.3% (-6 to +12%)
		Cambodia	-0.4%	+2.9% (-5 to +15%)	+2.5% (-5 to +14%)	+1.0% (-6 to +13%)

Remark: For Heat Index, Extreme Drought, and Fire Season, an increase in the indicator generally indicates higher physical climate risk. In contrast, changes in River Discharge (+/-) indicate changes in river flow relative to the baseline and do not directly represent changes in flood occurrence or severity. Given the uncertainty range spans both positive and negative values, River Discharge is therefore used as a directional indicator only and not as a quantitative measure of flood probability.

Reference: Climate Analytics, Climate Impact Explorer (2025), NGFS-aligned scenarios.



2.6) Risk-Specific Financial Impact Quantification and Substantive Effect Threshold

Building on the climate risk screening in Sections 2.2 and 2.3 and the risk assessment in Sections 2.4–2.5, Thai Wah identifies and assesses climate-related risks with the potential to result in material business and financial impacts. The Company prioritizes risks with a direct linkage to key financial drivers and for which proactive adaptation, mitigation, and preventive measures are required to reduce potential financial exposure.

The financial impact assessment focuses on two priority climate-related risks:

- **Physical Risk** – Crop Disease Risks under Drought Conditions: Drought-related changes in growing conditions may increase crop disease risks, potentially affecting cassava yield, raw material availability, and procurement costs. The Company has established adaptation and supply-chain resilience measures to reduce potential disruption and financial exposure.
- **Transition Risk** – Potential Carbon Exposure: Changes in carbon regulations, carbon pricing, and market requirements may increase future cost exposure. The Company is strengthening carbon management, emissions reduction initiatives, internal carbon pricing, and investment planning to enhance preparedness and reduce potential financial impacts.

The quantitative analysis translates these priority risks into indicative financial exposure under relevant climate scenarios, supporting the prioritization of risk mitigation, adaptation, and resilience measures. The Substantive Effect Threshold is applied to assess whether potential financial impacts may be material at the Company level.

The estimates are indicative and subject to data and methodological limitations and will be further enhanced as more granular company-level data and methodologies become available.



Definition of Substantive Effect

The Company defines a substantive financial effect as a climate- or nature-related financial impact that may potentially affect the Group's financial performance, operational resilience, or ability to create long-term value. The assessment of substantive financial effects is based on the potential impact on the Group's EBITDA, in accordance with the Corporate Impact Assessment Criteria established under the Company's Risk Management Framework. The impact levels are classified as follows:

Table 8 Level of Risk Financial Impact Assessment

Impact Level	Score	Financial Impact
Critical	5	Potential financial impact on EBITDA of $\geq$ 50 THB MB
Significant	4	Potential financial impact on EBITDA ranging from 31–49 THB MB
Medium	3	Potential financial impact on EBITDA ranging from 21–30 THB MB
Minor	2	Potential financial impact on EBITDA ranging from 1–20 THB MB
Insignificant	1	Potential financial impact on EBITDA of $<$ 1 THB MB

For the purpose of climate-related and nature-related financial disclosures under the TCFD and TNFD frameworks, the Company considers impacts classified as Medium, Significant, and Critical (Score 3–5) as substantive financial effects. These levels represent potential financial impacts that may meaningfully influence the Group's operating performance, financial resilience, and business decision-making processes. The Company applies this criterion to assess potential financial impacts arising from climate-related and nature-related risks and opportunities, including physical risks, transition risks, changes in regulations, resource dependencies, ecosystem degradation, and other factors that may affect the Group's business activities and value chain.



Quantitative Financial Assessment of Priority Climate-related Risk

Rationale for Risk Selection: Among the nature-related risks identified through the TCFD assessment, Thai Wah selected **Crop Disease Risks under under Drought Conditions** and **Potential Carbon Exposure** as priority risks, based on their materiality to business continuity, resource dependency, and stakeholder interests.

The financial figures below are **indicative, risk-based estimates** based on risk-specific assumptions and impact pathways, **not probabilistic loss models**. They do not represent **asset-level Value-at-Risk (VaR)** or forecasts of actual losses, but support risk prioritization and management decision-making in order to be strategically proactive in managing enterprise risks . Each priority risk is supported by a **corresponding mitigation plans with defined ownership and rigorous monitoring mechanisms**.

Figures are assessed **independently by risk category and should not be aggregated**, as each reflects distinct assumptions and impact pathways. *Aggregation of individual risks will lead to double counting and overstate the Company's overall financial exposure because the risks are interrelated.*

Table 9 Climate-related Risk Financial Impact Assessment

Climate-related Risk	Potential Financial Effect	Basis of Estimation	Estimated EBITDA Impact before mitigation (THB MB)	Response Strategy	Residual Risk
Crop Disease Risks under under Drought Conditions	Increased raw material procurement costs, lower cassava yield, production disruption, and higher operating costs	Management assumptions based on potential supply disruption scenarios, cassava yield variability, FY2025 operational experience, and existing mitigation measures	80 – 120	Following implementation of TWPC's regenerative agriculture programme, covering soil restoration, water stewardship, farmer capacity building, and long-term supply resilience.	Minor
Climate-related Risk	Potential Financial Effect	Basis of Estimation	Estimated Financial Impact before mitigation (THB MB)	Response Strategy	Residual Risk
Potential Carbon Exposure*	Potential increase in carbon pricing-related costs, future compliance requirements, carbon reporting obligations, and decarbonization investment needs	Management assumptions based on potential carbon pricing scenarios, evolving regulatory requirements, internal carbon pricing application, and FY2025 operational data	6 - 15	Following implementation of the Climate Transition Plan, covering internal carbon pricing, ISO 14064, FSA Gold certification, GHG reduction CAPEX, emissions management, and enhanced carbon accounting.	Minor

**Potential Carbon Exposure reflects potential financial impact under a Shadow Carbon Price assumption not an accounting provision or actual carbon tax/fee liability. The Company uses this to inform climate risk management, capital allocation, investment appraisal, and GHG reduction planning. ICP, assumptions and scope are reviewed annually, or upon significant carbon pricing regulation changes, to keep the assessment current.*



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2.7) Net Zero "3T" Strategy

To manage climate-related risks and support its long-term decarbonization ambition, Thai Wah has adopted a Group-wide Net Zero "3T" Strategy. The framework integrates greenhouse gas management, operational transition, and organizational transformation to strengthen climate resilience, reduce transition risks, and create long-term business value.

Table 10 3T Strategy of TWPC

Strategic Pillar	Description
Traceability	Establishes robust greenhouse gas accounting and traceability across Scope 1, Scope 2, and Scope 3 emissions to identify emission sources, monitor performance annually, and improve transparency throughout the value chain.
Transition	Accelerates the reduction of controllable greenhouse gas emissions through energy efficiency improvements, renewable energy deployment, process optimization, and other low-carbon operational initiatives.
Transformation	Embeds sustainability into the Company’s business strategy, organizational culture, and decision-making processes while strengthening collaboration across the value chain to meet evolving customer and stakeholder expectations for sustainable products and operations.

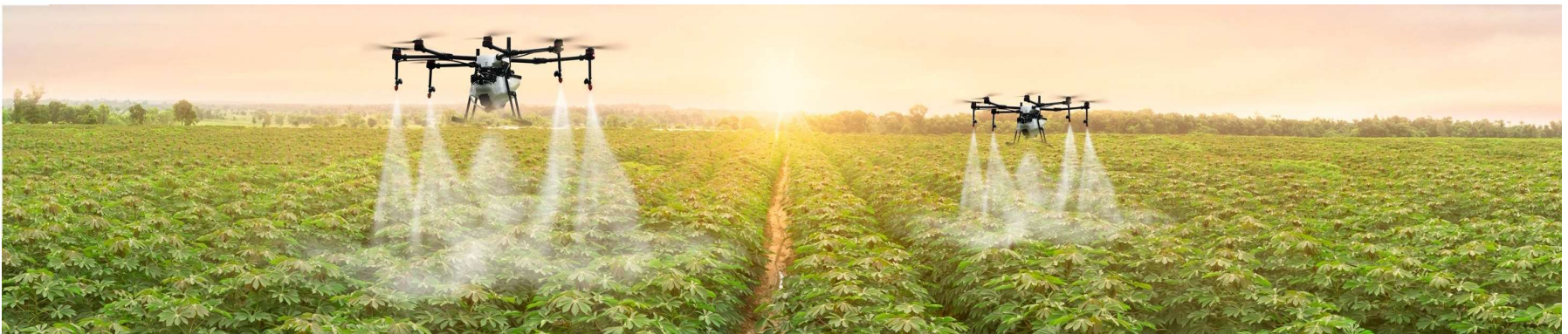


2.8) Climate Adaptation Investments

Thai Wah continues to invest in climate adaptation initiatives to strengthen the resilience of its operations, agricultural supply chain, and long-term business performance. Key adaptation investments include:

- **AI-enabled precision agriculture and satellite-based crop monitoring to improve farm productivity and strengthen climate risk management.**
- **Empowers farmers through the Thai Wah Farmer Network by providing training, also collaborates with local communities and government agencies to promote ecosystem conservation, proper chemical use**
- **Reuse of treated wastewater for agricultural irrigation during the dry season in Mae Sot and Kalasin to alleviate water scarcity.**
- **Distribution of disease-resistant cassava planting materials to improve crop resilience against Cassava Mosaic Disease (CMD) and other climate-related threats.**
- **Expansion of on-site solar photovoltaic capacity to 7.16 MW across three production facilities to reduce greenhouse gas emissions and improve energy resilience.**
- **Progressive replacement of coal with biomass for thermal energy generation, achieving 92% biomass substitution.**

These investments support both climate adaptation and mitigation objectives while enhancing operational resilience, resource efficiency, and long-term supply chain security.



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3. Risk Management

Thai Wah integrates climate-related risk management into its Enterprise Risk Management (ERM) framework, which is aligned with the COSO Enterprise Risk Management (COSO ERM) framework. Climate-related risks and opportunities are identified, assessed, monitored, and reported through the Company's established risk governance process, as summarized below.

3.1) Climate Risk Identification, Assessment, and Monitoring Process

Table 11 Climate Risk Management Process

Process	Description
1.) Risk Identification	Climate-related risks and opportunities are identified using a combination of external evidence and internal assessments. External inputs include publicly available research, international climate datasets, industry reports, and risk assessment tools such as WRI Aqueduct and ThinkHazard. Internal assessments are conducted through cross-functional engagement with business units and corporate functions to capture operational insights and emerging risks across the value chain.
2.) Risk Assessment	Identified risks are evaluated based on their likelihood and potential business impacts. Risks are prioritized using the Company's risk assessment criteria and are assessed alongside climate scenario analysis under different Global Warming Levels (GWLs). Potential financial implications are considered to support risk prioritization and the selection of appropriate risk responses, including risk mitigation, transfer, acceptance, or control.
3.) Risk Monitoring	Material climate-related risks are monitored using Key Risk Indicators (KRIs) and compared against the Company's defined Risk Appetite and risk tolerance levels. Monitoring results are communicated to relevant business units to support timely risk mitigation, operational improvements, and management decision-making.
4.) Review and Reporting	Climate-related risk assessments and management performance are reviewed periodically by the Sustainability Committee and the Audit, Risk Management and Corporate Governance Committee (ARCG) before being reported to the Board of Directors, as appropriate. Material climate-related information is disclosed through the Company's TCFD Report and Annual Sustainability Report.



3.2) Integration into Enterprise Risk Managements

Climate-related risks identified through the process described in Section 3.1 are not managed in isolation. They are escalated into the Group's consolidated ERM risk register alongside operational, financial, and strategic risks, and are assessed using the same likelihood and impact criteria. This integration ensures that climate-related risks compete for management attention and capital on a consistent basis with all other enterprise risks.

The ARC Committee reviews ESG performance and climate-related risk reports on a quarterly basis and monitors the effectiveness of internal controls over climate-related data and processes. Where a climate-related risk is assessed as approaching the Company's risk tolerance thresholds, it is escalated to the Sustainability Committee and, where material, to the Board of Directors in accordance with the reporting frequency described in Section 1.



4. Metrics and Targets

Thai Wah Net Zero Commitment

Thai Wah Public Company Limited is committed to conducting business sustainably across its entire supply chain. The company supports the global goal of limiting the increase in global temperature to no more than 1.5°C and aims to achieve Net Zero Emissions by 2050, in alignment with Thailand's national targets and the Paris Agreement.

4.1) Five-year Greenhouse Gas Emissions Performance

Thai Wah monitors and discloses greenhouse gas (GHG) emissions across Scope 1, Scope 2, and Scope 3 in accordance with the GHG Protocol. The five-year emissions trend provides a basis for monitoring climate performance, evaluating decarbonization progress, and supporting climate-related decision-making.



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Table 12 Five-year Greenhouse Gas Emissions (tCO₂e)

Scope	2021	2022	2023	2024	2025*
Scope 1 Direct emissions	48,637	15,222	12,193	16,494	21,632
Scope 2 Purchased electricity	40,490	43,738	45,384	40,282	44,062
Scope 3 Value chain	105,573	102,196	103,334	107,292	121,836
Total S1+S2 (tCO₂e)	89,127	58,960	58,297	56,776	65,694
Total S1+S2+S3 (tCO₂e)	194,700	161,156	161,631	164,067	187,530

**Thailand operation boundary expansion to five Strach manufacturing and one Food manufacturing, including Head office.*

Remark:

- Company 's greenhouse gas emissions data have been verified by 3rd party (Bureau Veritas) and registered with the Thailand Greenhouse Gas Management Organization (TGO).
- The Company plans to expand the scope of greenhouse gas verification and certification to Vietnam in 2026 and Cambodia in 2027, using a new base year defined by the Company, in accordance with TGO standards and ISO 14064-1, to cover operations in Thailand, Vietnam, and Cambodia.



4.2) Climate Mitigation Performance and Progress toward Net Zero

Table 13 Climate Mitigation Performance and Progress toward Net Zero

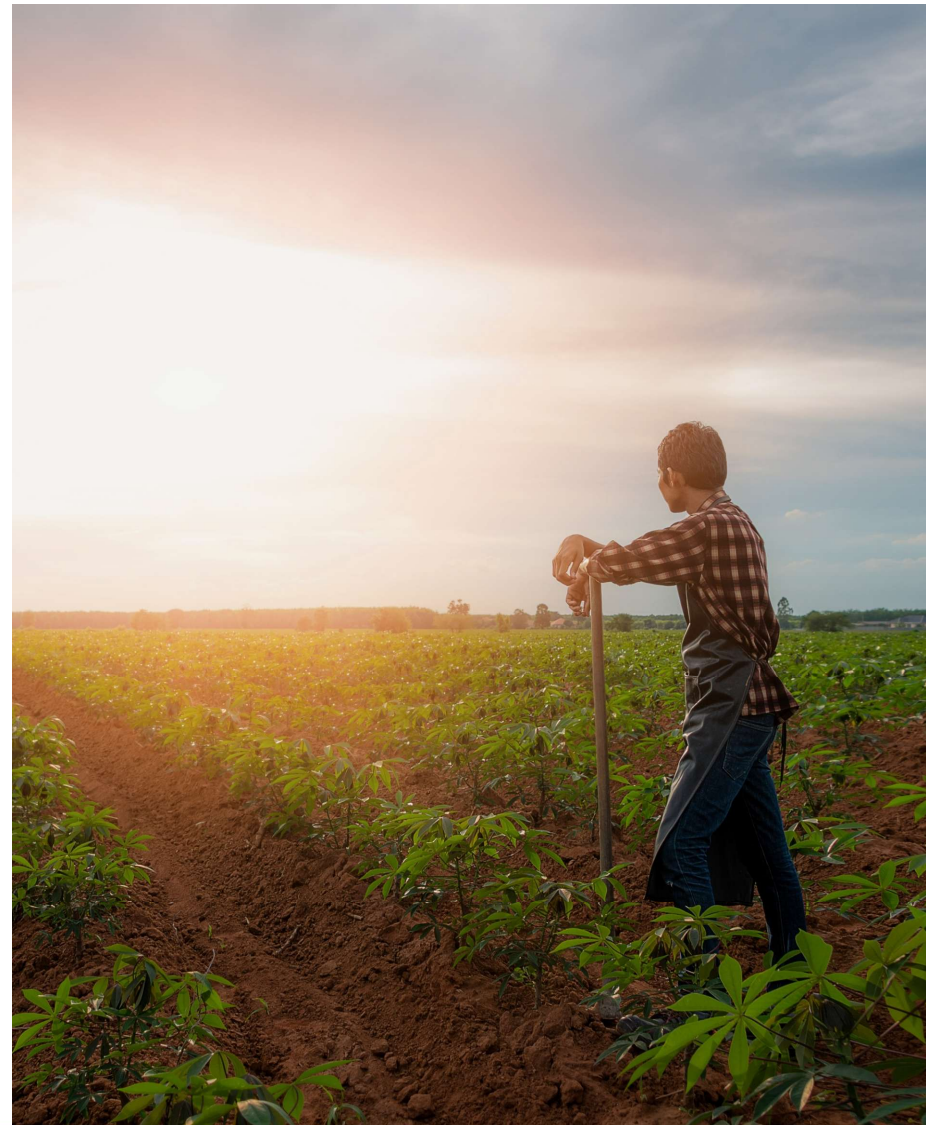
Category	2025 Performance	Future Actions
GHG Emissions Reduction	Scope 1+2 emissions reduced by 26% from the 2021 base year.	Continue reducing Scope 1 and Scope 2 emissions through energy efficiency, fuel switching, and renewable energy.
Solar Energy	Installed capacity reached 7.16 MW across three additional sites, generating 7,578 MWh, reducing approximately 3,600 tCO ₂ e, and supplying 19% of electricity from renewable sources. Joined RE100 Thailand in 2025.	Expand solar generation across suitable operational sites and maximize renewable electricity consumption.
Biogas and Waste-to-Energy	Generated 9,314 MWh of electricity and 235,146 MWh of thermal energy from biogas.	Improve efficiency and maximize utilization of existing biogas facilities and evaluate future expansion opportunities.
Biomass for Thermal Energy	Biomass accounted for 92% of thermal fuel consumption, reducing coal usage to 8%.	Continue replacing coal with sustainable biomass where technically and economically feasible.
Energy Efficiency	Continued implementation of energy efficiency projects across Thailand and Vietnam.	Expand energy efficiency initiatives and deploy proven technologies across additional operational sites.
GHG Verification	Scope 1, Scope 2, and Scope 3 emissions in Thailand were externally verified and registered with TGO.	Expand GHG accounting and verification across Thai wah's operational boundry (Thailand, Vietnam and Cambodia).
Climate Targets	Net Zero commitment maintained.	Continue developing transition plans and decarbonization measures to achieve the Company's Net Zero ambition.



4.3) Developing the Net Zero Transition Pathway

While the Company's Net Zero by 2050 ambition has been formally endorsed by the Board of Directors, the underlying decarbonization pathway comprising a defined baseline year, interim reduction targets, and quantified reduction levers across Scope 1, Scope 2, and Scope 3 remains under development. The Sustainability Department, under the oversight of the Sustainability Committee, is responsible for establishing this pathway in parallel with the expansion of the greenhouse gas verification boundary to Vietnam and Cambodia. The Company intends to disclose the revised organizational boundary and base year alongside interim targets in future reporting cycles and will report progress against each element as it is finalized.

- Continuously strengthen climate data management to improve GHG accounting completeness and accuracy, while expanding Scope 3 coverage from upstream raw material sourcing to downstream distribution.
- In 2025, disclosed Scope 1, 2 and 3 emissions in Thailand and participated in CDP Climate Change for the first time, achieving a B- rating, reflecting progress in climate governance, GHG management, and climate disclosure.



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4.4) Internal Carbon Pricing

To support climate-related investment decision-making and the assessment of climate-related financial considerations, Thai Wah has established an Internal Shadow Carbon Price (SCP) of USD 20 per tCO₂e. The SCP is utilized as an internal decision-support mechanism to assess, evaluate, and prioritize climate-related capital expenditures (CAPEX), including investments in energy efficiency improvements, renewable energy projects, and greenhouse gas emissions reduction initiatives.

The application of an internal carbon price enables the Company to incorporate potential carbon-related costs into investment considerations and enhance the alignment of capital allocation decisions with its climate transition objectives. The internal carbon price is subject to periodic review to reflect relevant developments in Thailand's Emissions Trading System (ETS), international carbon markets, and emerging carbon pricing mechanisms, including the European Union Carbon Border Adjustment Mechanism (CBAM).

The Company continues to implement greenhouse gas emissions reduction initiatives, enhancements to carbon management practices, and climate transition measures as part of its broader climate strategy to strengthen long-term business resilience, operational preparedness, and regulatory readiness. The estimated response investments disclosed in Table 9 represent strategic investments associated with the Company's climate transition plan, including measures to enhance resilience against climate-related risks and support compliance with evolving regulatory requirements. These estimated costs are considered forward-looking investments to facilitate the Company's transition toward a lower-carbon operating model and are not intended to be directly offset against the estimated financial impacts arising from climate-related risks and opportunities.

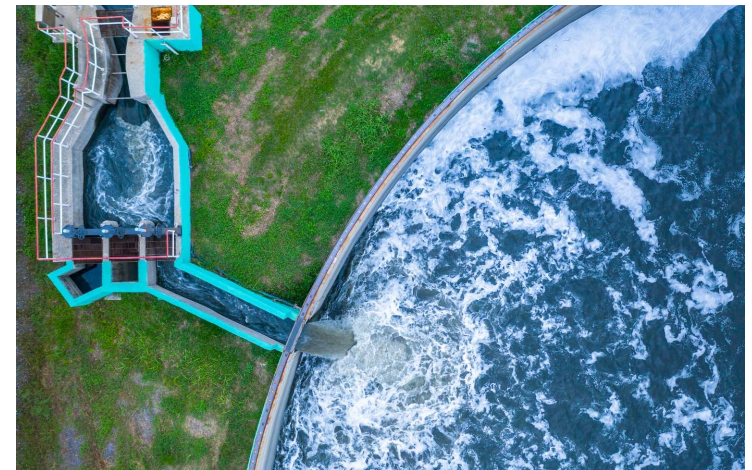


4.5) GHG Verification and Data Assurance

To enhance the credibility, transparency, and reliability of its climate-related disclosures, Thai Wah obtains independent third-party verification of its greenhouse gas (GHG) emissions data. External verification supports alignment with internationally recognized standards and reporting frameworks, including the GHG Protocol, ISO 14064, CDP, and the Company's preparedness for evolving climate-related disclosure requirements, such as IFRS S2 Climate-related Disclosures.

The Company adopts a phased assurance approach, beginning with Limited Assurance during the early stages of its climate data management system. Thai Wah's GHG emissions are independently verified by Bureau Veritas Certification (Thailand) an accredited verification body operating in accordance with ISO 14067, and ISO 14064. Moreover, the Company's greenhouse have been registered with the Thailand Greenhouse Gas Management Organization (TGO). The assurance process strengthens confidence in the Company's climate-related disclosures and supports informed decision-making by investors, customers, regulators, and other stakeholders.

Building on the foundation established in this report, Thai Wah will continue to expand greenhouse gas accounting across its regional operations, strengthen climate governance and data management systems, and integrate climate considerations into strategic planning and capital allocation working closely with employees, farmers, customers, suppliers, investors, and regulators to advance a low-carbon, climate-resilient value chain.



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Appendix



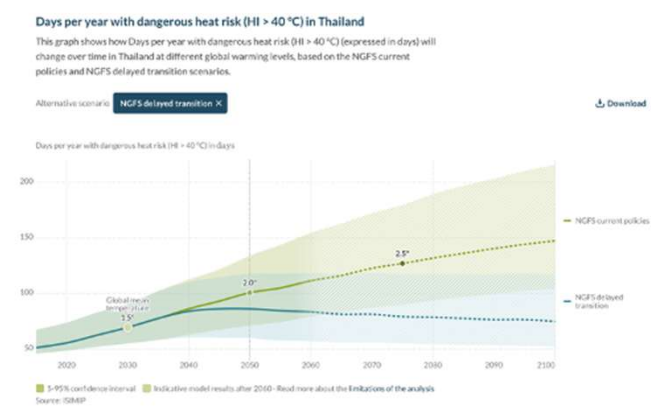
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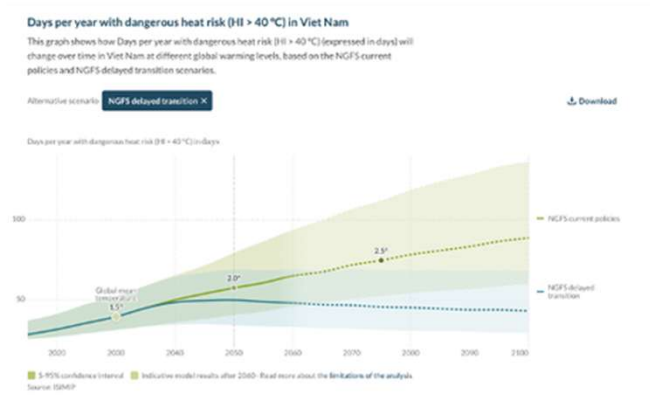
Supplementary Scenario Charts (Climate Impact Explorer, 2025)

The charts below present the full 2020–2100 scenario pathways underlying the summary figures in Section 2.5.1, for the two NGFS scenarios with continuous chart output available on the Climate Impact Explorer platform (NGFS Current Policies and NGFS Delayed Transition). These are provided as supplementary visual reference; the Net-Zero 2050 scenario values used in Section 2.5.1 were obtained from the corresponding data export and are not separately charted here. Shaded bands represent the 5th–95th percentile range across the model ensemble.

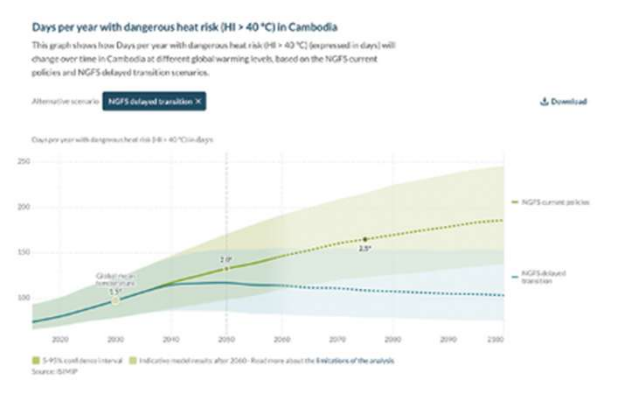
- Days per year with dangerous Heat Index (HI > 40°C)



Thailand : Days per year with dangerous Heat Index (HI > 40°C)



Vietnam : Days per year with dangerous Heat Index (HI > 40°C).



Cambodia : Days per year with dangerous Heat Index (HI > 40°C)

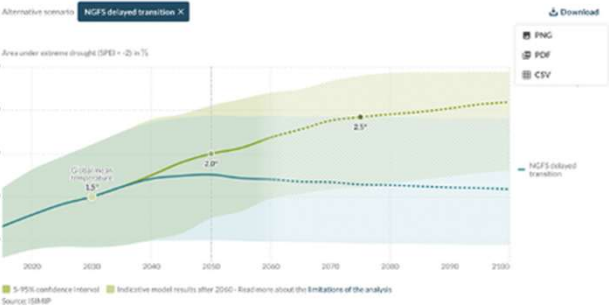


Supplementary Scenario Charts (Climate Impact Explorer, 2025)

- Area under extreme drought (SPEI < -2)

Area under extreme drought (SPEI < -2) in Thailand

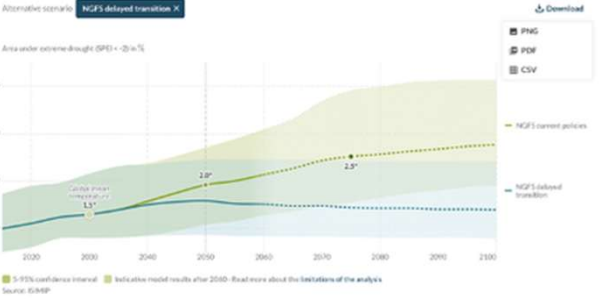
This graph shows how Area under extreme drought (SPEI < -2) (expressed in percent) will change over time in Thailand at different global warming levels, based on the NGFS current policies and NGFS delayed transition scenarios.



Thailand : Area under extreme drought (SPEI < -2)

Area under extreme drought (SPEI < -2) in Viet Nam

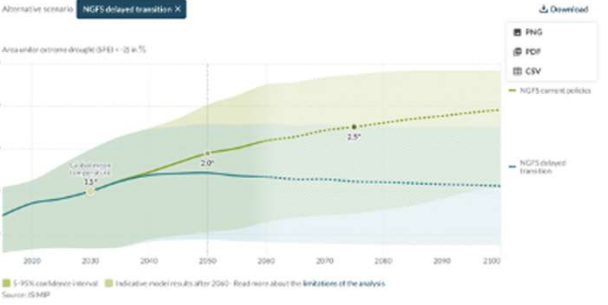
This graph shows how Area under extreme drought (SPEI < -2) (expressed in percent) will change over time in Viet Nam at different global warming levels, based on the NGFS current policies and NGFS delayed transition scenarios.



Vietnam : Area under extreme drought (SPEI < -2)

Area under extreme drought (SPEI < -2) in Cambodia

This graph shows how Area under extreme drought (SPEI < -2) (expressed in percent) will change over time in Cambodia at different global warming levels, based on the NGFS current policies and NGFS delayed transition scenarios.

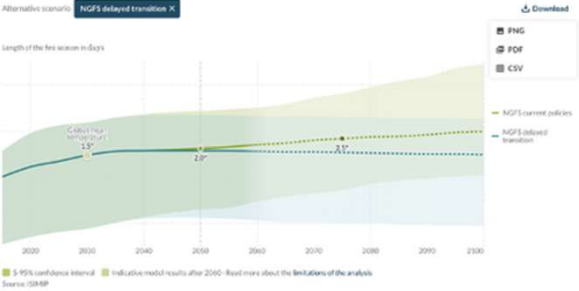


Cambodia : Area under extreme drought (SPEI < -2)

- Length of the fire season

Length of the fire season in Thailand

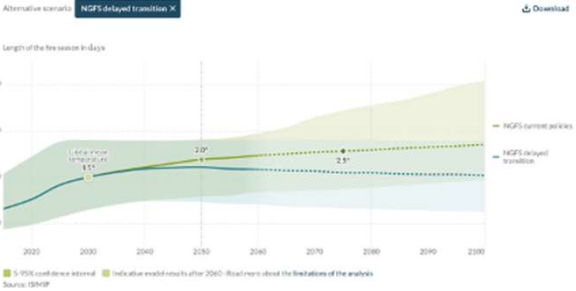
This graph shows how Length of the fire season (expressed in days) will change over time in Thailand at different global warming levels, based on the NGFS current policies and NGFS delayed transition scenarios.



Thailand : Length of the fire season

Length of the fire season in Viet Nam

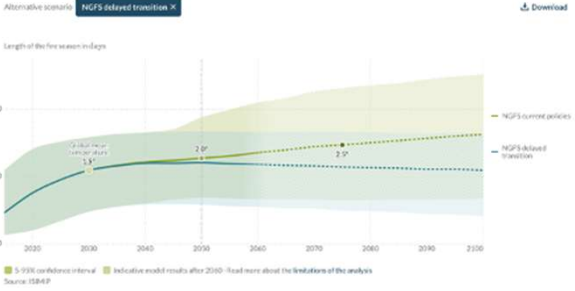
This graph shows how Length of the fire season (expressed in days) will change over time in Viet Nam at different global warming levels, based on the NGFS current policies and NGFS delayed transition scenarios.



Vietnam : Length of the fire season.

Length of the fire season in Cambodia

This graph shows how Length of the fire season (expressed in days) will change over time in Cambodia at different global warming levels, based on the NGFS current policies and NGFS delayed transition scenarios.



Cambodia : Length of the fire season



Supplementary Scenario Charts (Climate Impact Explorer, 2025)

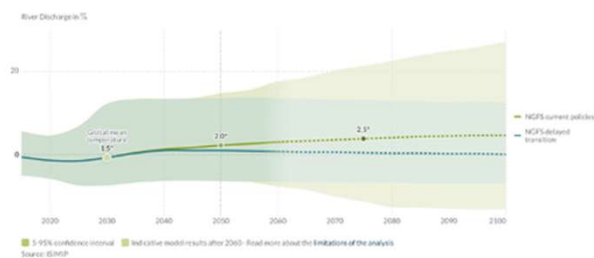
- River discharge

Relative change in river discharge in Thailand

This graph shows how relative changes in River Discharge (expressed in percent) will play out over time in Thailand at different global warming levels compared to the reference period 1995-2014, based on the NGFS current policies and NGFS delayed transition scenarios.

Alternative scenario: **NGFS delayed transition X**

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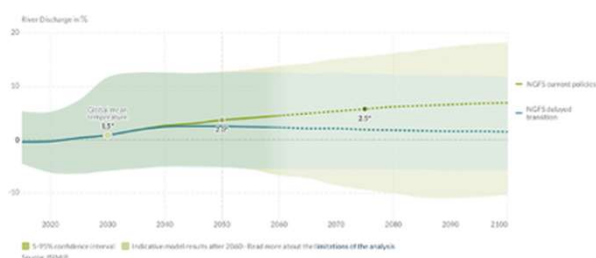
Thailand : River discharge

Relative change in river discharge in Viet Nam

This graph shows how relative changes in River Discharge (expressed in percent) will play out over time in Viet Nam at different global warming levels compared to the reference period 1995-2014, based on the NGFS current policies and NGFS delayed transition scenarios.

Alternative scenario: **NGFS delayed transition X**

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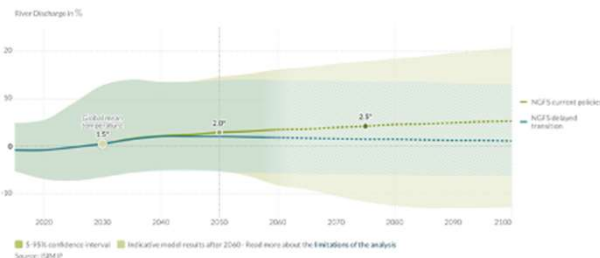
Vietnam : River discharge

Relative change in river discharge in Cambodia

This graph shows how relative changes in River Discharge (expressed in percent) will play out over time in Cambodia at different global warming levels compared to the reference period 1995-2014, based on the NGFS current policies and NGFS delayed transition scenarios.

Alternative scenario: **NGFS delayed transition X**

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Cambodia : River discharge



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Acronyms and Abbreviations

Acronym / Abbreviation	Full Term
AR6	IPCC Sixth Assessment Report
ARC	Audit, Risk Management and Corporate Governance Committee
CBAM	Carbon Border Adjustment Mechanism (European Union)
CCDR	Country Climate and Development Report (World Bank)
CDP	Global environmental disclosure platform (formerly the Carbon Disclosure Project)
CFO	Carbon Footprint of Organization
CFP	Carbon Footprint of Product
CIE	Climate Impact Explorer (Climate Analytics)
CMD	Cassava Mosaic Disease
COSO ERM	Committee of Sponsoring Organizations of the Treadway Commission – Enterprise Risk Management Framework
EEC	Eastern Economic Corridor (Thailand)
ENCORE	Exploring Natural Capital Opportunities, Risks and Exposure
ERM	Enterprise Risk Management
ESG	Environmental, Social, and Governance
ETS	Emissions Trading System
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GICS	Global Industry Classification Standard
GRI	Global Reporting Initiative
GWL	Global Warming Level
HI	Heat Index
IEC	International Electrotechnical Commission
IFRS S2	IFRS Sustainability Disclosure Standard S2, Climate-related Disclosures
IPCC	Intergovernmental Panel on Climate Change
ISO	International Organization for Standardization



Acronyms and Abbreviations

Acronym / Abbreviation	Full Term
KRI	Key Risk Indicator
LEAP	Locate, Evaluate, Assess, Prepare (TNFD assessment approach)
NGFS	Network for Greening the Financial System
RCP	Representative Concentration Pathway
RE100	Renewable Energy 100%, a global corporate renewable electricity initiative
SBTi	Science Based Targets initiative
SCP	(Internal) Shadow Carbon Price
SPEI	Standardized Precipitation-Evapotranspiration Index
SSP	Shared Socioeconomic Pathway
TCFD	Task Force on Climate-related Financial Disclosures
TGO	Thailand Greenhouse Gas Management Organization
TNFD	Taskforce on Nature-related Financial Disclosures
TWPC	Thai Wah Public Company Limited
USD / US\$	United States Dollar
VaR	Value-at-Risk
WRI	World Resources Institute
THB MB	THB Million



Thai Wah's adoption of the TCFD framework marks not an endpoint, but a baseline for continuous improvement. This report reflects our current understanding of climate-related risks and opportunities across our value chain and our commitment to strengthening climate resilience year on year. With our ambition to achieve **Net Zero by 2050**, we recognize that meaningful progress requires continued collaboration with farmers, partners, investors, and communities.

Together, we remain committed to building a resilient, low-carbon value chain and creating sustainable long-term value.