CLIMATE RESILIENCE

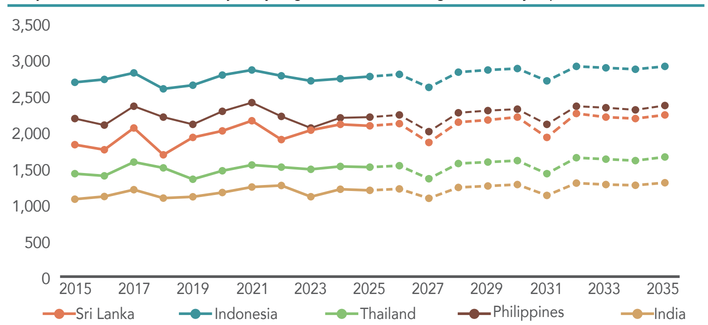
Climate resilience is assessed using two climate pathways applied consistently across the SRRO/CRRO workstream:

- Net Zero scenario (NZ): qualitatively aligned to lower warming pathways such as SSP1 2.6, with stronger global mitigation and adaptation efforts, earlier peak in greenhouse gas emissions, and more orderly transitions in key sectors.
- Divergence scenario (DV): qualitatively aligned to higher stress pathways such as SSP2 4.5, with slower mitigation, higher physical climate stress, more frequent extremes, and more uneven adaptation and policy responses.

Both scenarios are evaluated over short , medium and long term horizons consistent with the CRRO assessment (ST, MT, LT) and are used as the common reference for CRRO 1–4.

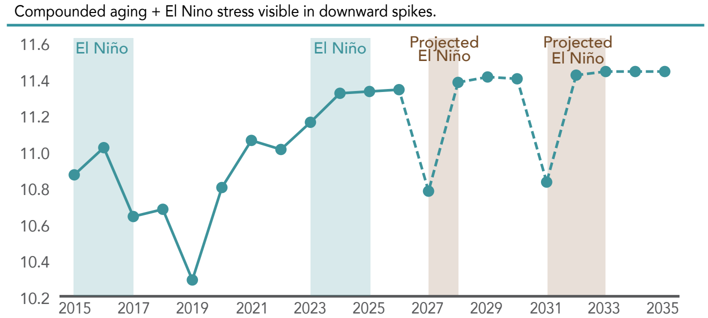
Rainfall Projection - Manufacturing and Sourcing Countries (2015–2035)

Projected based on SSP2-4.5 trajectory. Higher mean but also higher volatility expected.



El Niño Yield Impact on Manufacturing and Sourcing Countries - Historical vs Projected (2015–2035)

Compounded aging + El Nino stress visible in downward spikes.



CLIMATIC DRIVERS AND HYDRO CLIMATIC STRESSORS

a. Rainfall variability and ENSO / El Niño

Rainfall patterns in tropical regions relevant to Haycarb are strongly modulated by the El Niño–Southern Oscillation (ENSO), with El Niño phases typically associated with:

- Reduced rainfall and drought conditions in parts of South Asia and Southeast Asia.
- Higher frequency of seasonal rainfall deficits and heat extremes.
- Increased interannual variability in soil moisture and river flows.

Under Net Zero:

»Mitigation and adaptation reduce the longer term intensification of extremes, but ENSO remains an important driver of periodic droughts and rainfall anomalies.

Under Divergence:

Higher background warming amplifies the hydrological response to ENSO, increasing the probability of:

- Deeper or more persistent droughts in affected years.
- Stronger swings between drought and heavy rainfall events.
- Greater stress on both rain fed agriculture and water supply systems.

b. Surface and groundwater systems

Climate resilience also depends on how rainfall changes propagate into:

- Surface water flows, reservoirs and river systems.
- Groundwater recharge and drawdown.
- Water quality (including salinity, contaminants and temperature).

Under Net Zero

More orderly adaptation in water management and infrastructure (e.g. storage, treatment, managed aquifer recharge) can moderate effective stress on surface and groundwater systems.

Under Divergence

Increased evaporation, altered monsoon patterns and more intense extremes can lead to:

- Reduced dry season baseflows and reservoir storage.
- Greater pressure on groundwater levels and abstraction limits.
- Higher sensitivity of groundwater quality (e.g. salinity) to climate variability.

c. Agricultural and crop system resilience

Climate resilience of coconut and other feedstock related crops is assessed through:

- Temperature and heat stress: higher mean temperatures and heatwaves affect flowering, fruit set and yield.
- Rainfall and soil moisture stress: rainfall deficits and altered seasonality reduce yields and increase tree stress.
- Tree age and replanting dynamics: ageing plantations and under replanting reduce long term productive capacity.
- Pests and diseases: climate change can alter pest and disease pressures.

Under Net Zero:

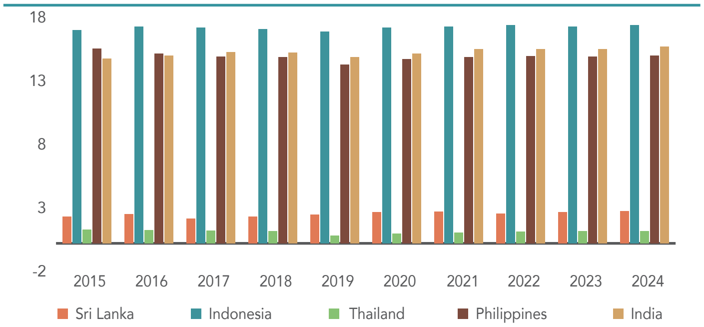
Lower long term warming and stronger adaptation (e.g. replanting, better varieties, improved agronomy) support more stable long run yield trajectories, although ENSO driven variability remains.

Under Divergence:

- » Probability of multi year yield decline Vulnerability of ageing plantations where replanting lags.
- » Need for more intensive adaptation just to maintain current output.

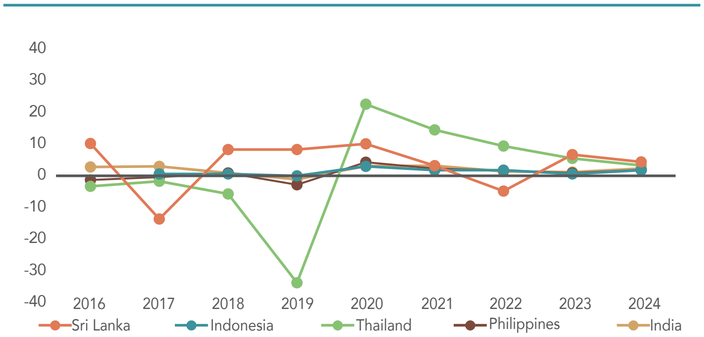
All-Country Yield Comparison - Manufacturing and Sourcing Countries (Million Tonnes)

Indonesia and India dominate. Thailand is smallest and declining.



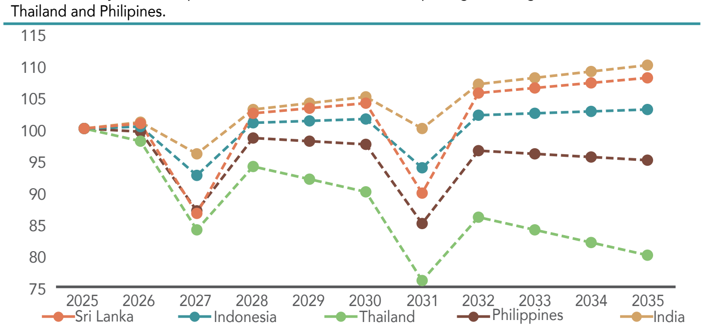
YoY % Change in Yield - Manufacturing and Sourcing Countries

Volatality visible in Sri Lanka and Philipines post El Nino years.



Coconut Shell Availability Projection- Manufacturing and Sourcing Countries

Shell availability tracks nut production minus domestic consumption growth, Tightest in Thailand and Philipines.



d. Water availability and hydrological resilience

Water resilience is assessed by linking climate patterns to:

- » Hydrological regimes: baseflows, low flow conditions, reservoir inflows, and seasonal deficits.
- » Groundwater stress: recharge vs abstraction; susceptibility to drawdown; policy limits on abstraction.
- » Quality and usability: changes in salinity, contaminants and temperature affecting usable intake for industrial use.

Under Net Zero:

- » Better adaptation in water infrastructure, demand management and policy reduces effective shortages.
- » Climate driven stress remains, but is moderated by increased storage, treatment, reuse and allocation reforms.

Under Divergence:

- » More frequent and severe low flow periods and droughts increase the probability that surface and groundwater constraints become binding.
- » Regulatory responses (e.g. tighter abstraction limits, effluent standards, tariffs) become more stringent in response to stress.

These hydro climatic themes underpin CRRO 2 (water risk) and interact with CRRO 3 (where water and temperature conditions can influence renewable energy and waste heat performance at plant level) and CRRO 4 (where water stress supports demand for advanced water purification carbons).

TRANSITION DYNAMICS AND DECARBONISATION PATHWAYS

Climate resilience is also shaped by decarbonisation and broader transition dynamics, particularly:

- Net Zero aligned transition pathway: expansion of renewables, electrification, energy storage, and stricter emissions and water regulations.
- Policy and market responses: carbon pricing, standards, incentives for low carbon products and technologies.
- Technology trajectories: battery and supercapacitor adoption, water treatment and reuse technologies, industrial emissions controls.

Under Net Zero:

- Faster decarbonisation and electrification increase demand for energy storage carbons used in supercapacitors and advanced battery systems.
- More stringent water and emissions regulations reinforce demand for water and air purification carbons.
- Renewable energy deployment and waste heat use reduce long term vulnerability to fossil fuel price shocks and supply disruptions.

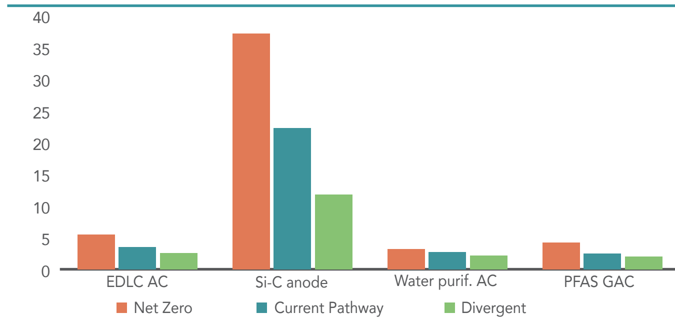
Under Divergence:

- Transition progress is slower and more uneven; energy carbon demand still grows but less strongly and more variably.
- Physical climate impacts (e.g. water stress, air quality concerns) still drive adaptation, supporting persistent demand for purification carbons even when energy transition policies are weaker.
- Fossil fuel price volatility and supply risk remain elevated, sustaining the strategic case for renewable energy adoption as a resilience measure.

These transition dynamics provide the climate resilience context for CRRO 3 (renewable energy opportunity) and CRRO 4 (portfolio of climate solution carbons).

Segment Growth of Value-Added Carbon Under Each Selected Scenario

How much each value-added carbon segment scales by scenario.



SCENARIO OVERVIEW TABLE

A high level resilience view across Net Zero and Divergence can be structured as follows:

Anticipated Effects on Business Model and Value Chain

Dimension	Net Zero (NZ)	Divergence (DV)	Resilience implication
Rainfall & ENSO	ENSO remains influential; long term intensification of extremes is more limited; adaptation reduces impacts of droughts and heavy rainfall.	Higher background warming amplifies ENSO impacts; more frequent and intense droughts and heavy rainfall events.	NZ supports more stable long run planning; DV requires greater buffer capacity and contingency across feedstock and water systems.
Surface & groundwater	Stronger investment in storage, treatment, reuse and regulated abstraction improves effective resilience.	Greater risk of chronic groundwater stress and more binding abstraction constraints; quality issues more likely.	NZ reduces effective washing water shortfalls; DV makes water a more binding constraint in stress periods.
Crop systems (e.g. coconut)	Lower warming and improved agronomy help stabilise yields, but ENSO variability still affects production.	Higher warming, more frequent extremes and under replanting increase long run yield and availability risk.	NZ makes structural feedstock stress less likely; DV increases need for diversification and backward integration.
Transition & markets	Faster decarbonisation, stronger regulation and technology deployment; higher demand for energy, water and air solution carbons; strong policy support for renewables.	Slower, uneven transition; physical impacts still drive adaptation; energy carbon upside is lower, but purification demand remains robust.	NZ offers higher upside for energy storage carbons and clearer renewable investment signals; DV still supports purification demand and energy security investments.

RESILIENCE SENSITIVITY BY CRRO, HORIZON AND SCENARIO

The table below summarises scenario sensitivity and resilience labels by CRRO and horizon within this overarching climate resilience frame:

CRRO	Horizon	Scenario	Primary climate / transition stressor	Indicative downside band	Sensitivity label*	Description
CRRO 1 – Raw material (coconut shell and charcoal)	ST	Divergence	El Niño-linked rainfall variability; short-term shell and charcoal tightness	Within management stress bands for cost-of-sales pressure	Medium	Short-term resilience supported by multi-country sourcing and fallback imports.
CRRO 1 – Raw material (coconut shell and charcoal)	MT	Divergence	Repeated rainfall and yield stress; tighter shell availability; higher charcoal prices	Within 5%–15% cost-pressure and 1%–3% to 2%–7% impact bands	High	Medium-term resilience increasingly conditional on sourcing diversification and disciplined expansion.
CRRO 1 – Raw material (coconut shell and charcoal)	LT	Divergence	Structural agricultural constraints; ageing plantations; under-replanting	Up to Medium–High downside under prolonged stress	High	Long-term resilience depends on continued adaptation and geographic diversification.
CRRO 2 – Water risk	ST	Divergence	Short-term dry-season stress; reduced usable washing water in severe years	~1%–3% of Group revenue downside in severe stress year	Low	Short-term resilience supported by current water-mix, RO and prioritisation.
CRRO 2 – Water risk	MT	Divergence	Rising washing demand; greater hydrological and regulatory pressure	~2%–7% of Group revenue downside in severe stress year	Medium	Medium-term resilience depends on expanding RO, recycling, storage and alternate sourcing.
CRRO 2 – Water risk	LT	Divergence	Structural hydrological pressure; repeated stress years	~2%–7% downside per severe stress year with higher recurrence risk	Medium	Long-term resilience depends on sustained water-resilience investment and lower water-intensity.
CRRO 3 – Renewable-energy transition opportunity	ST	Net Zero / Divergence	Fossil-fuel price volatility on current non-renewable share	Illustrative 5%–10% cost-of-sales sensitivity in stress cases	Medium	Short-term resilience improves as renewable and waste-heat projects start offsetting fossil exposure.
CRRO 3 – Renewable-energy transition opportunity	MT	Net Zero	Renewable share moving toward medium-term increase above baseline	Illustrative 5%–15% reduction in fossil-driven cost pressure vs no-transition case	Low	Medium-term resilience strengthened by higher renewable share and better cost predictability.
CRRO 3 – Renewable-energy transition opportunity	LT	Net Zero / Divergence	Structural shift toward higher renewable and waste-heat use	Illustrative +5%–15% improvement in earnings resilience vs high-fossil pathway	Limited	Long-term resilience becomes increasingly value-protective as fossil dependence declines.

MANAGING CLIMATE AND SUSTAINABILITY RELATED RISKS AND OPPORTUNITIES - SLFRS S1 AND S2 DISCLOSURES

CRRO	Horizon	Scenario	Primary climate / transition stressor	Indicative downside band	Sensitivity label*	Description
CRRO 4 – Value-added carbons (Energy Storage Carbon, water, air)	ST	Net Zero	Early-stage demand response in Energy Storage Carbon, water and air channels	Within current-year revenue and utilisation bands	Limited	Short-term resilience anchored in existing purification demand and initial Energy Storage Carbon growth.
CRRO 4 – Value-added carbons (Energy Storage Carbon, water, air)	MT	Net Zero	Stronger transition and adaptation demand for Energy Storage Carbon and purification	Energy Storage Carbon upside increases materially; purification demand remains positive	Limited	Medium-term resilience supported by high Energy Storage Carbon upside and robust purification demand.
CRRO 4 – Value-added carbons (Energy Storage Carbon), water, air)	LT	Divergence	Slower transition but persistent water stress and emissions concerns	Energy Storage Carbon upside more muted; water and air demand provide a stable floor	Limited	Long-term resilience is portfolio-based, with purification channels supporting the opportunity.

***Resilience sensitivity labels legend**

The labels in the table are used as follows:

» Limited: Minor effect, typically up to around 3% of PBT.

» Low: Noticeable but manageable stress, around 3%–5% of PBT.

» Medium: Material stress requiring active adaptation, roughly 5%–7% of PBT or within existing management bands.

» **High:** Potentially critical stress if unmanaged, generally above about 10% of PBT or beyond current management bands.

INPUTS USED

The climate resilience assessment draws on the following data sources:

» IPCC AR6 Shared Socioeconomic Pathways: SSP1-2.6 (Net Zero-aligned, ~1.8°C by 2100) and SSP2-4.5 (Divergence, ~2.7°C by 2100)

» IEA Net Zero Emissions by 2050 Scenario (NSE) and Announced Pledges Scenario (APS) for transition pathways

» National Determined Contributions (NDCs) for Sri Lanka, Indonesia, and Thailand

» NOAA Oceanic Niño Index (ONI) historical data (1950–2025) for El Niño and La Niña event identification

» IPCC AR6 regional climate projections for South Asia and Southeast Asia (rainfall, drought frequency, monsoon variability)

» World Bank Climate Change Knowledge Portal regional data for precipitation, temperature, and hydrological extremes

» FAO FAOSTAT coconut production, yield, and harvested area time-series (1961–2024) for Sri Lanka, Indonesia, Thailand, India, Philippines, Vietnam

» National coconut authorities data on plantation age profiles, replanting rates, and vulnerability assessments

» Peer-reviewed literature on coconut yield responses to temperature, rainfall, and ENSO variability

» Regional surface-water flow records, dry-season baseflow data, reservoir inflows, and groundwater-level monitoring for Sri Lanka, Thailand, Indonesia

» National water resource assessments and regulatory abstraction limits (Sri Lanka Water Resources Board; Thailand Department of Groundwater Resources; Indonesian Ministry of Public Works)

» WRI Aqueduct Water Risk Atlas for baseline water stress and climate-driven stress indices

» Water quality data including salinity intrusion risk and groundwater contamination indices

» BloombergNEF global energy storage and battery market forecasts (2025–2050), including supercapacitor and activated carbon demand

» IEA Global EV Outlook and Energy Storage Market reports for battery deployment under Net Zero scenarios

» Market intelligence on water and air purification activated carbon demand drivers and regulatory trends

» World Bank and IMF carbon pricing and emissions regulation forecasts

» Internal operational data: historical and current water sourcing mix by source type and location; renewable-energy and waste-heat capacity; energy consumption by fuel type; coconut shell and charcoal sourcing volumes, costs, and supplier locations; manufacturing water intensity, washing-water requirements, and wastewater recycling rates

ASSUMPTIONS USED

The following key assumptions underpin the climate resilience assessment:

» Scenario selection: Net Zero (SSP1-2.6) and Divergence (SSP2-4.5) represent boundary cases of plausible climate and transition futures, not precise forecasts.

» ENSO and rainfall variability: ENSO remains a key driver under both scenarios. Under Divergence, higher warming amplifies hydrological responses, increasing drought intensity and duration.

» Adaptation effectiveness: Net Zero assumes stronger adaptation (water infrastructure, crop replanting, agronomy) moderates climate stress. Divergence assumes slower, uneven adaptation with greater residual stress.

» Agricultural resilience: Coconut yields remain sensitive to rainfall, temperature, and replanting. Divergence assumes ageing plantations and under-replanting increase structural yield risk; Net Zero assumes improved varieties and agronomy partially offset stress.

» Water system resilience: Net Zero assumes investment in storage, treatment, recycling, and managed abstraction improves water availability. Divergence assumes more frequent low-flow periods and tighter regulatory constraints increase shortage probability.

» Transition pace: Net Zero assumes faster decarbonisation and stronger regulation drive robust demand for energy storage and purification carbons. Divergence assumes slower transition but persistent purification demand from physical climate impacts.

» No catastrophic tipping points: The assessment excludes abrupt, non-linear climate events (e.g., monsoon collapse, ice-sheet failure) that would materially worsen outcomes.

» Time horizon consistency: Short-, medium-, and long-term horizons applied consistently across all CRROs and scenarios, aligned with business planning.

» Materiality framework: Climate-related effects assessed using the same quantitative thresholds and qualitative criteria (strategic, operational, reputational) as SRROs.

REPORTING PERIOD

The climate resilience assessment was carried out in FY 2025/26 using the same time horizons as CRROs and SRROs. While climate resilience was also assessed in FY 2024/25, the current year assessment includes a more in-depth analysis of how each climatic driver (ENSO variability, rainfall patterns, hydrological stress, agricultural resilience, and transition dynamics) impacts the Group's climate-related risks and opportunities.

SIGNIFICANT AREAS OF UNCERTAINTY CONSIDERED IN THE CLIMATE RESILIENCE ASSESSMENT

» ENSO variability and timing: The frequency, intensity, and duration of future El Niño and La Niña events cannot be predicted precisely. Actual timing and severity may differ materially from historical patterns and model projections.

» Regional climate outcomes: Climate models show substantial spread in regional rainfall, temperature, and hydrological projections for South and Southeast Asia monsoon-dependent regions. Local outcomes may fall outside scenario-aligned boundary cases.

» Agricultural adaptation and replanting: Coconut yield resilience depends on farmer-level replanting decisions, variety improvements, and agronomy practices influenced by economic incentives, land tenure, and policy support. Actual adaptation rates are highly uncertain and region-specific.

» Groundwater behaviour and regulation: Groundwater recharge, drawdown, and quality responses to climate variability are poorly understood in many sourcing and manufacturing regions. Regulatory responses (abstraction limits, tariffs) may tighten faster or slower than assumed.

» Transition pace and policy implementation: The speed and consistency of decarbonisation, renewable-energy deployment, and emissions/water regulation are subject to policy uncertainty, geopolitical developments, and technology costs. Actual pathways may not align with either scenario.

» Market demand elasticity: Demand growth for energy storage carbons, water purification, and air purification products depends on uncertain technology adoption rates, regulatory drivers, and competitive positioning over medium- to long-term horizons.

- **Quantification limitations:** Many climate-resilience effects, articularly medium to long term, cannot yet be quantified with sufficient reliability for standalone financial reporting. Sensitivity bands and indicative ranges should be interpreted as illustrative rather than precise forecasts.
- **Interaction and cascading effects:** Climate and transition risks do not operate in isolation. Feedstock stress may coincide with water shortages; renewable-energy opportunities may be constrained by supply-chain disruptions; regulatory responses may accelerate unexpectedly. Combined or cascading effects could materially alter resilience outcomes.

As the Group's climate-scenario modeling and data availability improve, future disclosures are expected to provide more granular quantification and reduced uncertainty ranges.

METRICS & TARGETS

CROSS INDUSTRY METRICS

Greenhouse Gas Emissions (GHG)

Basis of Determination of Organisational Boundary and Operational Boundary

Organisational Boundary

The boundary includes all greenhouse gas emission sources under operational control across all facilities and associated residential premises.

Operational Boundary

The operational boundary includes direct and indirect emissions categorised as:

- **Scope 1:** Direct GHG emissions from fuel combustion in dryers, kilns, boilers, generators, forklifts, and vehicles, as well as fugitive emissions from refrigerants and CO_2 fire extinguishers, wastewater treatment emissions, and fertiliser-related emissions.
- **Scope 2:** Indirect emissions from purchased electricity consumed within operations.
- **Scope 3:** Other indirect emissions occurring across the value chain including categories considered material to the organisation (This year 7 categories were reported out of 15 categories).

Methodology used for the measurement and disclosure of GHG Emissions

GHG emissions were quantified and disclosed in accordance with the requirements and principles of the International Organisation for Standardisation ISO 14064-3:2018 standard and the Greenhouse Gas Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard. The organisational and operational boundaries were defined based on operational control, and emissions were calculated using internationally recognised emission factors, activity data, and applicable global warming potentials (GWPs). The GHG emissions inventory was independently verified by Control Union Inspections (Pvt) Ltd.

Summary of GHG Emissions

Scope	2025/26 ($mtCO_2e$)
Scope 1	13,302.64
Scope 2	16,066.10
Scope 3	20,416.15
Total	49,784.89

GHG Scope 1 and Scope 2 Emissions

Description	Greenhouse gas emissions (metric tons CO2e) 2025/26		
	Scope 1	Scope 2	Total
Consolidated accounting group	13,302.64	16,066.10	29,369
Other investee (investment in associate, joint ventures)	-	-	-
Total (Operational control approach)	13,302.64	16,066.10	29,369