

In Part 1, we established that qualitative climate scenario analysis is the narrative foundation – mapping **how** physical and transition risks intersect with a company's assets, operations, and supply chains under NGFS and IPCC reference scenarios.

But under IFRS S2 (paragraph 22), narrative alone does not satisfy the disclosure requirement. Regulators and investors ultimately ask a sharper question: ***What does this mean for the numbers?***

For CFOs, Controllers, and Risk Officers, this is where climate scenario analysis moves from a sustainability exercise into a financial modelling discipline – one that must withstand the same rigour as impairment testing, covenant compliance, and capital budgeting.

1. From Narrative to Numbers: What Quantitative Scenario Analysis Requires

Quantitative climate scenario analysis is not a separate exercise from Part 1's qualitative work – it is its natural extension. Every cause-and-effect pathway drafted in the qualitative phase ("Flooding at Klang facility → 10-day shutdown → RM X estimated revenue delay") must now be translated into a modelled financial figure with defensible assumptions.

This exercise typically produces three outputs:

- **Value-at-Risk (VaR) estimates:** the potential financial exposure to a specific climate risk under a defined confidence interval and time horizon.
- **Stress-tested financial statements:** pro-forma income statements, balance sheets, and cash flow projections re-run under 1.5°C and 3.0°C+ pathways.
- **Capital allocation adjustments:** revised hurdle rates, capex prioritization, and divestment triggers informed by climate-adjusted returns.

Crucially, this is not a one-off spreadsheet exercise. It must be repeatable, auditable, and reconcilable to the general ledger – the same standard applied to any financial estimate under external assurance.

2. Core Quantitative Techniques for Malaysian PLCs

Climate Financial Risk Quantification Techniques		
Technique	What It Measures	Typical Application
Climate Value-at-Risk (Climate VaR)	Potential downside to asset or portfolio value under a given climate scenario and confidence level	Real estate, plantation, and infrastructure asset valuations
Discounted Cash Flow (DCF) Stress-Testing	Impact of carbon pricing, revenue shifts, and <u>opex</u> inflation on projected free cash flows	Manufacturing, energy-intensive operations
Asset Impairment Testing (MFRS 136 / IAS 36)	Whether climate-adjusted cash flows fall below carrying value, triggering write-downs	Fixed assets, property, plant & equipment near flood-prone or high-transition-risk zones
Probability-Weighted Scenario Modelling	Blended financial outcome across multiple scenario probabilities (e.g., 40% orderly, 35% disorderly, 25% hot-house world)	Board-level capital allocation and strategic planning
Insurance & Capex Stress Testing	Premium escalation and repair/replacement capex under acute physical risk frequency increases	Facilities in Klang Valley and East Coast flood zones

3. Financial Statement Connectivity: Where the Numbers Must Land

This is the step many finance teams underestimate. Under IFRS S1, quantitative climate scenario outputs cannot remain isolated in a sustainability appendix – they must connect explicitly to the primary financial statements.

Key connectivity points auditors and investors will test:

- **Asset Impairment:** If a 3.0°C physical risk scenario shows a manufacturing facility facing recurring flood-related downtime, does the impairment model under MFRS 136 reflect a shortened useful life or reduced recoverable amount?
- **Going Concern & Liquidity:** Does the disorderly transition scenario materially affect covenant headroom, working capital, or refinancing risk within the going-concern assessment window?
- **Cost of Capital:** Are climate-adjusted risk premiums reflected in the discount rates used for impairment testing and capital project appraisal – or is the company still using a pre-climate WACC? *Side note* "Pre-climate WACC" refers to a company's Weighted Average Cost of Capital

calculated the conventional way – blending cost of equity and cost of debt based on historical risk, without adjusting for climate-related risk

- **Contingent Liabilities:** Do disorderly transition scenarios (e.g., accelerated CBAM tariffs) create disclosable contingent liabilities under MFRS 137?

A qualitative scenario that never reaches the CFO's impairment model or the Audit Committee's going-concern paper has not satisfied IFRS S2 – it has merely described risk without pricing it.

4. A 4-Step Execution Guide for Finance & Risk Committees

1. Select Priority Assets for Quantification: Not every asset requires full financial modelling in Year 1. Prioritize assets flagged as high-exposure in the Part 1 qualitative mapping – typically those in flood-prone zones or carbon-intensive production lines.

2. Build the Financial Model Architecture: Establish a repeatable DCF or VaR model template that ingests scenario assumptions (carbon price trajectories, physical hazard frequency, demand elasticity) as adjustable inputs, not hardcoded figures – this is what auditors will expect to trace.

3. Run Probability-Weighted Outputs, Not Single-Point Estimates: Present a range (e.g., best case, base case, severe case) rather than a single number. Boards and auditors under ISSA 5000 increasingly expect sensitivity ranges over false precision.

4. Reconcile to Statutory Reporting: Route every material output – impairment triggers, contingent liabilities, revised useful lives – through the same internal control and sign-off process as statutory financial estimates, with full documentation of assumptions and data sources.

Moving Forward

Quantitative climate scenario analysis is where sustainability reporting formally merges with financial reporting discipline. The qualitative narrative from Part 1 tells the story; the quantitative model prices it. Together, they satisfy the full intent of IFRS S2 – demonstrating not just awareness of climate risk, but its measurable, auditable impact on the numbers that matter to investors, lenders, and regulators.

In our next article series, we turn to the Assurance Horizon – why internal review must precede external verification, and what evidence trails your GHG accounting and scenario models need before an external auditor walks through the door.

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