

Climate Scenario Analysis for Sustainability Reporting

Case Study Day 2: Apex Infrastructure Holdings (AIH)

Evaluating Strategy Resilience Under the NGFS Phase V Framework

1. Corporate Profile & Strategic Context

Zhejiang New Infrastructure & Cultural Tourism Development Group (operating under the portfolio entity **Apex Infrastructure Holdings / AIH**) is a diversified asset management firm specializing in critical infrastructure, logistics, and resource-dependent operations. The company has historically optimized its portfolio using retrospective 10-year weather averages and traditional macroeconomic forecasting.

However, under regional compliance mandates and the global rollout of IFRS S2, the board has mandated an immediate, forward-looking climate stress test to preserve its credit ratings and international cost of capital.

The baseline portfolio consists of five high-value assets with varying carbon intensities and geographic vulnerabilities:

1. **AST-001 (Thermal Power Utility):** A gas-fired thermal power generation facility heavily exposed to carbon pricing and transition policy risks.
2. **AST-002 (Coastal Logistics Hub):** A major distribution terminal situated directly in an intense hurricane and coastal storm surge corridor.
3. **AST-003 (Industrial Manufacturing Foundry):** A heavy metallurgy plant with extreme energy cooling requirements and high water scarcity exposure.
4. **AST-004 (Agricultural Supply Chain Depot):** A core inland storage network highly vulnerable to chronic, multi-year drought corridors.
5. **AST-005 (Data Center Complex):** A tech infrastructure asset facing significant cooling strain and power margin compression from urban heat island effects.

2. The Stress Test Parameters

To test the resilience of its corporate strategy, AIH maps its assets against three distinct futures over a 2030–2050 planning horizon:

- **The Orderly Scenario (Net Zero 2050):** Global policy tightens early and predictably. Carbon taxes rise systematically to **\$150 per metric tonne**, forcing clean technology adoption but bounding physical warming to **1.5°C**.
- **The Disorderly Scenario (Delayed Transition):** Policymakers delay action until 2030, followed by an abrupt, uncoordinated policy shock. Carbon prices spike violently to **\$250 per metric tonne**, causing legacy asset obsolescence and sudden market demand shifts.
- **The Hot House World Scenario:** No additional climate policies are introduced. Global warming exceeds **3°C**, triggering catastrophic acute weather shocks and extreme chronic productivity degradation.