

Taiwan Mobile Climate-Related Risks Assessment and Adaptation Report

To achieve sustainable development and address the challenges of climate change, Taiwan Mobile (TWM) actively integrates climate-related risks and opportunities into its corporate Enterprise Risk Management (ERM) and financial planning processes. This report aims to disclose to stakeholders our quantitative financial impact assessment methodologies, adaptation strategies, and implementation costs regarding transition risks from regulations and acute physical risks.

I. Climate Transition Risks: Carbon Pricing and Low-Carbon Transition Strategy

A. Core Strategy

Following the enforcement of Taiwan's Climate Change Act and the phased implementation of the national carbon fee mechanism, TWM has aligned national carbon reduction targets closely with its internal operations. As a leading telecommunications operator, electricity accounts for approximately 98% of TWM's total energy consumption. To minimize potential financial impacts from future carbon pricing, TWM has established a science-based decarbonization pathway approved by the Science Based Targets initiative (SBTi). We commit to reducing Scope 1 and Scope 2 GHG emissions by 42% by 2030 (compared to the 2024 baseline) and 90% by 2050, aiming to achieve net-zero emissions by 2050.

B. Financial Impact Quantitative Methodology (Before Action)

TWM has developed a financial assessment model for climate transition risks to estimate potential carbon pricing exposure prior to implementing proactive reduction measures:

1. **Baseline Setting:** The actual 2024 Scope 1 and Scope 2 (market-based) GHG emissions of 346,767 tCO₂e are used as the baseline for financial estimation.
2. **Decarbonization Pathway Projection:** In alignment with TWM's SBTi-approved roadmap, the projected emissions for the short-term target in 2030 are calculated to be 201,125tCO₂e (representing a 42% reduction from the baseline).
3. **Carbon Price Scenario Assumption:** Referring to scenario analyses and domestic/international carbon pricing policy developments, TWM assumes a projected carbon fee of NTD 1,500 per metric ton in 2030.
4. **Financial Impact Calculation Formula:**
$$\text{Projected Emissions (2030)} (201,125 \text{ tCO}_2\text{e}) \times \text{Projected Carbon Fee (NTD1,500/tCO}_2\text{e)} \approx \text{NTD } 301,687,500$$

Based on this model, without taking transition strategies such as power purchase

agreements for renewable energy, TWM's short-term regulatory financial exposure is estimated at approximately NTD 302 million (with an estimated average time frame of 4 years).

C. Decarbonization Initiatives and Management Costs

To meet our SBTi-approved targets and reduce future carbon fee exposure, TWM has comprehensively scaled up renewable electricity procurement and energy transition initiatives.

1. **Management Costs Incurred:** During the reporting year, TWM invested a total of NTD 774,337,746 in mitigation, comprising NTD 773,992,653 for renewable electricity procurement (CPPA) and NTD 345,093 for Renewable Energy Certificates (RECs) acquisition.
2. **Performance and Results:** Through systematic renewable energy sourcing, TWM successfully increased its renewable electricity usage to 18.6% of its total consumption in 2025, exceeding our interim target and effectively reducing future carbon fee exposure.

II. Physical Climate Risks: Extreme Precipitation and Geological Hazard Mitigation

A. Core Strategy

Extreme precipitation, typhoons, and landslides driven by climate change present direct physical threats to TWM's mobile networks, HUB facilities, data centers, and retail stores. Through our Climate Adaptation and Business Continuity Management (BCM) program, TWM implements site-specific adaptation measures across critical nodes to ensure stable, uninterrupted telecommunications services for our nationwide subscribers during extreme weather events.

B. Financial Impact Quantitative Methodology (Before Action)

TWM applies Geographic Information System (GIS) and hazard vulnerability matrixes to evaluate localized asset exposures and potential revenue losses across our direct operations, primarily focusing on short-term horizons (where the likelihood of annual occurrence is high):

1. **Retail Store Assessment:** 116 retail stores were identified as having flood exposure. Assuming temporary closures of 1–3 days per year due to extreme flooding events, TWM estimates a potential annual revenue loss ranging from **NTD 3 million to NTD 9 million** based on average store revenues.
2. **Telecom Infrastructure Assessment:** Across TWM's network facilities, 75 HUB facilities are exposed to flooding hazards, 1 HUB facility is located in a debris flow risk area, and 2 HUB facilities are located in landslide risk areas. Treating the annual revenue of base stations supported by these landslide and debris-flow-exposed facilities as the maximum risk exposure, TWM estimates the annual

revenue exposure at **NTD 360 million**.

3. Financial Impact Calculation Formula:

Minimum Physical Risk Exposure= Network Revenue Exposure (NTD 360million) +
Minimum Retail Revenue Loss (NTD 3million) =NTD 363,000,000/ year

Based on this model, without any flood prevention or resilience enhancement measures, the potential annual financial exposure from extreme weather events on TWM's operations is estimated at **NTD 363 million**.

C. Physical Adaptation Initiatives and Management Costs

To ensure high availability of our network and assets, TWM allocates dedicated annual budgets for physical flood defense and backup infrastructure:

1. **Management Costs Incurred:** A total of **NTD 87,390,000** was deployed during the reporting year for physical protection and preventive maintenance.
 - **Retail Stores (NTD 5,500,000):** Allocated across the 116 flood-exposed stores for emergency flood barriers, sandbags, response personnel, and rapid post-event restoration.
 - **Telecom Infrastructure (NTD 81,890,000):** Allocated across 78 high-risk HUB facilities and associated base stations for flood barrier installation, slope monitoring, backup generator maintenance, backup battery deployment, debris cleanup, and rapid service restoration.

II. Physical Climate Risk Adaptation Plan: 100% Asset Protection and Financial Implementation

Adhering to our proactive, context-specific adaptation principles, TWM integrates climate resilience into the entire life cycle of corporate assets to secure 100% full coverage across operations:

A. Existing Operations: Adaptation Practice and Capital Allocation

1. **100% Revenue Coverage:** TWM conducts regular, site-specific climate risk assessments for all existing offices, retail stores, data centers, and network facilities. Through these assessments, acute physical risks—specifically flooding, landslides, debris flows, and extreme storm events—have been identified as the primary material threats to operations. This adaptation plan and assessment process cover 100% of TWM's existing operations (measured as a percentage of total revenues).
2. **Short-Term Timeline (Less than 5 Years):** Directly aimed at reducing all material physical risks identified through the climate risk assessment, TWM integrates physical and non-physical measures. For existing facilities identified with potential flooding or geological hazards, TWM has designed emergency and backup procedures. TWM targets the implementation of all structural enhancements and resilience upgrades within **less than 5 years**.

3. **Financial Implementation Evidence (NTD 7.72 Million CAPEX):**

To enhance the power resilience of our critical infrastructure against physical climate hazards, TWM deployed **NTD 7,718,000 in climate-related capital expenditure (CAPEX)** during the reporting year for **Uninterruptible Power Supply (UPS) replacement projects at critical IDC data center facilities**. This capital investment ensures data centers maintain continuous operations during acute disruptions, such as utility power outages caused by typhoons or extreme storms, proving concrete financial commitment to adaptation.

B. New Operations: Resilience Integration (100% Deployment)

1. **100% New Asset Coverage:** TWM's internal engineering guidelines mandate that 100% of newly planned, under-construction, or completed assets and telecom infrastructure must be fully incorporated into our physical climate risk assessment and adaptation framework.
2. **Source Management and Engineering Resilience:**
 - a. **Planning and Site Selection Stage:** During initial planning, 100% of new projects are cross-referenced against TWM's internal climate hazard maps and geological database to avoid areas highly vulnerable to landslides, debris flows, or extreme flooding.
 - b. **Construction and Infrastructure Stage:** New critical communication nodes are constructed with strict waterproofing and leak-detection designs. Moreover, backbone HUB facilities are built using dual-home routing transmission architecture to ensure that new assets possess high resilience against extreme weather events and acute physical climate risks from day one.