**2024 TCFD Physical Climate Risk Financial Analysis**

1. **Estimated Cost of Climate Disaster Prevention Measures in 2024: NT$64.88 million**

   To mitigate the impacts of climate-related disasters such as typhoons, torrential rainfall, and landslides that may disrupt telecommunications services, CHT has steadily increased its annual capital investments in network infrastructure. These measures aim to ensure service continuity and quality under extreme weather conditions. Ongoing capital investments include mobile base stations (including vehicle-mounted units), portable core networks, mobile satellite systems, microwave and broadband equipment, as well as upgrades to last mile network devices and cabling to enhance network resilience. Budget allocations for both fixed-line and mobile networks are based on the average expenditures over the past three years, totaling NT$64.88 million for climate change adaptation purposes.

2. **Projected Typhoon-Related Physical Damages: NT$258.61 million**

   Under the IPCC AR6 scenario and high-resolution downscaled climate models jointly released by the National Science and Technology Council and the Ministry of Environment, the frequency of severe typhoons in Taiwan may increase by approximately 105% by mid-century. Historical data indicates that in 2024, there were around 66 days during which natural disasters disrupted normal operations (e.g., office closures and school suspensions). This figure is projected to rise to 136 days under future climate conditions. Based on historical annual maintenance costs of base stations, optical splice boxes, and data center facilities, the expected physical damages from typhoons are estimated at NT$258.61 million per year.

3. **Projected Impact of Sea-Level Rise: NT$36.85 million**

   CHT operates approximately 1,500 sites across Taiwan, including regional offices, branches, and both directly operated and franchise retail locations. Based on the IPCC AR6 scenario and scientific assessments jointly released by the National Science and Technology Council and the Ministry of Environment, approximately 200 of these sites located in coastal areas are considered to be at elevated risk from projected sea-level rise. Assuming the installation of flood gate at a unit cost of NT$30,000 per site, the total prevention-related capital expenditure is estimated at NT$6 million. In addition, future repair and restoration costs for the affected sites — based on the average maintenance expenses for data centers, base stations, and optical splice boxes — are projected at NT$7.54 million. The total projected cost associated with sea-level rise amounts to approximately NT$36.85 million.

4. **Projected Increase in Electricity Costs Due to Higher Temperatures: NT$157.86 million**

   Based on the IPCC AR6 scenario and supporting research jointly released by the National Science and Technology Council and the Ministry of Environment, under the RCP 8.5 scenario, Taiwan's average temperature is projected to rise by approximately 3.4°C in the future. Assuming that each data center requires 3.604 kWh of electricity per hour to

maintain current operating temperatures, and applying a unit electricity cost of NT$5 per kWh, the projected annual increase in electricity consumption due to elevated cooling demand is estimated to result in additional costs of approximately NT$157.86 million.

5. **Projected Revenue Loss from Climate-Related Service Interruptions: NT$407.67 million**

Assuming that each climate-related disruption results in an average telecommunications outage of one hour, and referencing IPCC AR6 scenario modeling—along with domestic research jointly released by the National Science and Technology Council and the Ministry of Environment—severe typhoon frequency in Taiwan is projected to increase by approximately 105% by mid-21st century. Under this assumption, increased repair complexity may extend service downtime to four hours per event. Based on the four typhoon events that impacted Taiwan in 2024, and using CHT's average annual revenue of NT$223.2 billion as a basis, the estimated revenue loss attributable to service outages is calculated as: NT$223,200,000,000 × (4/24 × 4/365) = NT$407.67 million.

6. **Total Estimated Physical Climate Risk in 2024: Approximately NT$925.86 million**

| Physical Risk | Unit: NT$ |
|---|---|
| Estimated Cost of Climate Disaster Prevention Measures | 64,880 |
| Projected Typhoon-Related Physical Damages | 258,608 |
| Projected Impact of Sea-Level Rise | 36,847 |
| Projected Increase in Electricity Costs Due to Higher Temperatures | 157,855 |
| Projected Revenue Loss from Climate-Related Service Interruptions | 407,671 |
| Total | 925,862 |