TCFD Climate-Related Scenario, Physical Risk

1. **The total estimated loss caused by climate disasters is NT$77.3 million,** which is explained as follows:
   (1) Mobile communication loss is NT$1.92 million per year, and the cost of repair manpower is around NT$500 thousand per year.
      - In 2023, mobile revenue was approximately NT$64.2 billion, and the total number of base stations was around 56,700. A total of 620 base stations have collapsed due to climate change (typhoons, forest fires or heavy rains), the estimated revenue loss would be approximately NT$64.2 billion/365 days/56,700 stations*620 stations-day=NT$1.923 million.
      - The cost of mobilizing manpower for repairs is around 200 people–days* NT$2,500/people-day=NT$500 thousand.
   (2) Fixed communication loss is NT$2.701 million per year, and the cost of repair manpower is around NT$4.225 million per year.
      - Estimated based on Fixed communication problems caused by climate change (typhoons, forest fires or heavy rains) in 2023; The number of landline services problems is extracted from the QoS information system, while the number of broadband and MOD (Multimedia on Demand of Chunghwa Telecom, CHT MOD) services problems is extracted from the SQM information system.
      - The revenue loss is estimated based on a one-day reduction in monthly fees. Estimated losses for the three main services, landline, broadband, and MOD, are as follows:
      - Landline revenue loss = 24 thousand cases*average monthly rental fee NT$100*1 day/30 days=NT$80 thousand.
      - Broadband revenue loss = 108 thousand cases*average monthly rental fee NT$694*1 day/30 days=NT$2.498 million.
      - MOD revenue loss = 26 thousand cases*average monthly rental fee NT$142*1 day/30 days=NT$123 thousand
      - The total revenue loss is NT$(80+2498+123) thousand=NT$2.701 million per year.
      - Due to climate change causing a significant increase in malfunctions, it is estimated that each maintenance worker will need to work an additional day per year. Assuming an average overtime pay of approximately NT$2,500 per

person per day, with approximately 1,690 maintenance workers, the annual cost increase for additional manpower can be calculated as follows:

- Maintenance manpower cost = 2,500*1,690=NT$4.225 million per year.

(3) Equipment and facility loss caused by natural disasters is around NT$2.951 million per year, manpower cost is around NT$165 thousand per year.

- There were 6 typhoons with warnings issued in 2023. Based on the disaster loss data for 2023. The maintenance cost of damage to server room facilities and equipment caused by the typhoon was NT$2.951 million. Due to the typhoon, working hours need to be extended, overtime pay +shift Personnel meals cost NT$165 thousand, equipment and facility losses and shift labor costs = NT$(2.951+0.165) million = NT$3.117 million.

2. **The investment cost for the climate disaster prevention action plan is around NT$64.88 million** per year

(1) In order to cope with climate change-related windstorms, heavy rainfall, and mudslide that cause interruptions in communications, CHT has increased the investment in the network year after year to maintain the quality of communications even in the event of a natural disaster. Ongoing investments include mobile base stations (including vehicles), mobile nuclear networks, mobile portable satellites, microwave and broadband equipment, in addition to upgrading and adjusting last mile network equipment and cables to strengthen communication network resilience. In the last three years (2021~2023), the average expenditure on Fixed communication + Mobile communication in the prevention of climate change amounted to NT$64.88 million. (Mobile communication increased by NT$11 million, Fixed communication increased by NT$12 million)