

TCFD Climate-Related Scenario, Physical Risk

1. **The total estimated loss caused by climate disasters is NT\$48.69 million**, which is explained as follows:

(1) Mobile communication loss is NT\$10.97 million per year, and the cost of repair manpower is around NT\$500 thousand per year.

■ Using the example of Typhoon Soudelor in 2015, the estimated number of obstructed base stations is as follows: 1,800 stations on August 8, 1,000 stations on August 9, 470 stations on August 10, and 270 stations on August 11, totaling 3,540 stations-day.

■ In 2022, mobile revenue was approximately NT\$61.09 billion, and the total number of base stations was around 54,000. Assuming a climate disaster of the same scale as Typhoon Soudelor in 2015, the estimated revenue loss would be approximately $\text{NT\$61.09 billion} / 365 \text{ days} / 54,000 \text{ stations} * 3,540 \text{ stations-day} = \text{NT\$10.97 million}$.

■ The cost of mobilizing manpower for repairs is around $200 \text{ people-days} * \text{NT\$2,500} / \text{people-day} = \text{NT\$500 thousand}$.

(2) Fixed communication loss is NT\$2.265 million per year, and the cost of repair manpower is around NT\$4.25 million per year.

■ Estimated based on Fixed communication problems caused by heavy rains from June to August 2021; 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 = $15 \text{ thousand cases} * \text{average monthly rental fee NT\$100} * 1 \text{ day} / 30 \text{ days} = \text{NT\$50 thousand}$.

✓ Broadband revenue loss = $90 \text{ thousand cases} * \text{average monthly rental fee NT\$694} * 1 \text{ day} / 30 \text{ days} = \text{NT\$2.082 million}$.

✓ MOD revenue loss = $28 \text{ thousand cases} * \text{average monthly rental fee NT\$142} * 1 \text{ day} / 30 \text{ days} = \text{NT\$133 thousand}$.

✓ The total revenue loss is $\text{NT\$}(50 + 2082 + 133) \text{ thousand} = \text{NT\$2.265 million per year}$.

✓ 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 1,700 maintenance workers, the annual cost increase for additional manpower can be calculated as follows:

✓ Maintenance manpower cost = $2,500 * 1,700 = \text{NT\$4.25 million per year}$.

(3) Equipment and facility loss caused by natural disasters is around NT\$30.97 million per year.

■ Taking into consideration that there were no significant damages from disasters in 2022, based on the disaster loss data provided by the accounting department for the years 2016 to 2022, it is estimated that 70% of the losses were due to natural disasters affecting the equipment and facilities.

■ Equipment and facility loss caused by natural disasters = $(171 + 59 + 32 + 26 + 9 + 11 + 1.7) / 7 * 0.7 = \text{NT\$30.97 million}$.

2. **The investment cost for the climate disaster prevention action plan is around NT\$40 million per year**

In order to promptly respond to natural disasters and maintain communication quality, the Company invests annually in backup equipment. Through forward-looking planning subsidies, we continuously acquire communication repair-related equipment such as drones, mobile repair vehicles, satellite antennas, and fiber optic transceivers. The investment for such equipment amounts to approximately NT\$40 million per year.