

## Physical Risks

The climate change report card is getting more dismal for the human race. In 2020, the temperature in Verkhoyansk, known as the coldest place on Earth, recorded 38°C; and forest fires in Australia either killed, harmed, or burnt the habitat of some 3 billion wild animals, including 60 thousand koalas. Korea also suffered a great deal from a monsoon season that lasted 54 days, the longest since 1973. As global warming continues, 2020 will very likely go down as one of the three hottest years in the history of meteorological records<sup>1)</sup>.

In Korea, damage to national infrastructure and human resources/properties caused by climate change is spreading, and overseas, natural disasters such as forest fires and earthquakes are causing disruptions in industrial production.

These physical risks from climate change can cause a chain of damage not only to the loss of operations starting with the shutdown of the workplace, but also to the depreciation of real estate owned by businesses and individual customers. Decreases in corporate and individual asset values can soon be transferred to financial risks, which have led us to prioritize the impact within our portfolio to identify the physical risks of climate change.

We conducted an analysis of physical risks in two main categories. The first is real estate mortgage assets for retail customers, and the second is real estate assets in terms of corporate loan and investment.

We have analyzed the climate change scenario through the Representative Concentration Pathways specified in the 5th evaluation report released by IPCC provided by the Ministry of Environment in Korea. According to the Korea Climate Change Forecast Analysis, the average annual temperature is expected to increase to 1.8°C for RCP 2.6 , 2.9°C for RCP 4.5 and 4.7°C for RCP 8.5 depending on the degree of efforts to reduce greenhouse gases. (2071~2100)

Due to the increase in the frequency of abnormal disasters due to climate change, we used data<sup>2)</sup> such as the frequency of disasters, rainfall, torrential rains, landslides, and forest fires to determine the size of assets in areas with high risk exposure to real estate in which Shinhan Financial Group lends and invests.

Based on Shinhan Bank, the total number related to real estate mortgages are 661,175, accounting for a total of KRW 1,176 trillion. Among them, the amount of real estate located in Gangwon-do, which is particularly environmentally vulnerable, is about 2 trillion won, accounting for 1.7 percent.

Depending on the scenario, the value of real estate collateral is estimated to fall by 200 billion won for RCP 2.6 and up to 2 trillion won for RCP 8.5

Shinhan Financial Group will establish a management system related to the use of climate risk information to prevent physical risks caused by climate change in advance.

In order to mitigate physical risks, the company will first push for an eco-friendly transition to corporate customers in the group's asset portfolio. It will provide benefits such as cutting interest rates on loans so that corporate customers can achieve a transition to a low carbon economy that directly reduces carbon emissions. We will also monitor companies by collecting and managing their environmental data.

Secondly, just as the current climate change transition risk system is integrated into the group risk system, the physical risk system will also be integrated into the risk system to prepare a group asset management plan for disaster scenarios based on publicly disclosed data such as data from the Korea Meteorological Administration.

Thirdly, we will provide goods and services to respond to climate change risks. In addition to loans for the transition to eco-friendly facilities and the green remodeling of real estate, insurance products due to physical risks related to climate change will also be reviewed.

In the mid-to long-term (5-10 years), we plan to reduce exposure to high-carbon industries to mitigate physical risk. For corporate customers who have no visible results in short-term instruction activities, we plan to discontinue financial support.

Shinhan Financial Group believes that the best result is not to occur in responding to physical risks of climate change, and plans to establish and actively implement a strategy to respond to disasters that cause physical risks.