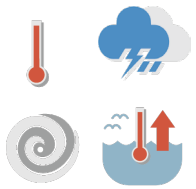
Real Estate

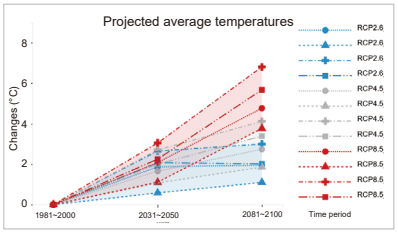
Major Factors of Impacts

Rising temperatures and increased frequency and intensity of extreme weather events. Particularly increased frequency of torrential rains and localized heavy rains that cause flooding and inland overflows.

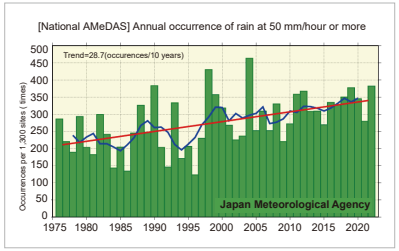


Current Situation and Future Projections

Rising average temperatures, increased frequency and intensity of extreme precipitation events, and increased number of strong typhoons have been observed. These factors have led to increase frequency of river flooding, inland flooding and landslides, affecting real estate assets. If Climate change progresses in the future, the extent and frequency of these impacts will further escalate.



Projected average temperatures (annual average temperature projections based on emission scenarios and climate models (difference from standard period))Source: A-PLAT



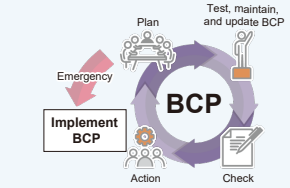
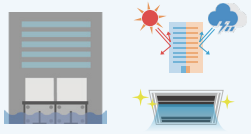
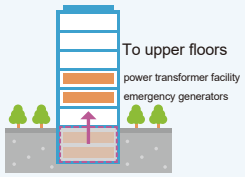
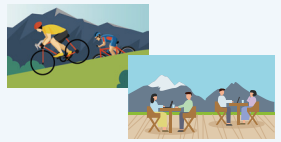
Changes in the annual occurrence of precipitation of 50 mm/hour or more in Japan
Source: Japan Meteorological Agency website (translated by NIES)

A study estimating the risk of internal flooding throughout Japan using RCP8.5 predicts that the amount of damage will increase to about double the current climate in the period 2080-2099 (Source: Fukubayashi (2012)). Rising temperatures, changes in rainfall and snowfall, and rising sea level may affect resort businesses that utilize natural resources (e.g., forests, snow-covered mountains, sandy beaches, tidal flats).

Adaptation

Implement disaster prevention and mitigation measures against weather-related disasters (torrential rains, typhoons, floods, etc.) and strengthen buildings to ensure the safety and security of customers. It is important to incorporate risk assessment and countermeasures that take into account future impacts of climate change into business plans. It is expected that adaptation business, such as development of real estate products with high climate resilience and environmental performance will develop further.

Factors: Rising temperatures, increased frequency and intensity of extreme weather events

Management resources	Core business	Markets/Customers	Adaptation business
Impacts	**Impacts on residential, business, commercial, and resort facilities**	**Market shifts**	**Product/Service development**
	• Damage to buildings, increased costs for disaster prevention and mitigation measures, increased risk of business shutdowns, increased operating costs, and decreased asset values • Decreased operating days of facilities due to impact on tourism resources, including deterioration and loss of natural resources (e.g., diminishing sandy beaches and decreasing snow depth)	• Increased demand for safe and secure living, working, and facility use environments • Increased demand for buildings with high climate resilience and environmental performance	• Increased demand for safe and secure living, working, and facility use environments • Increased demand for buildings with high climate resilience and environmental performance
Adaptation measures	■Formulate and implement BCP  ■Enhance resilience of buildings and infrastructure  ■Review site selection and design conditions  ■Locate critical facilities on upper floors  ■Provide information upon real estate transactions  ■Use artificial snowfall machines, etc. 	■Construct buildings with climate resilience/high environmental performance  ■Invest in sustainable and resilient urban development  ■Invest in disaster prevention and mitigation work ■Strengthen maintenance and management of facilities 	■Develop climate resilient buildings and infrastructure  ■Develop smart cities  ■Develop business to help resorts attract more visitors 

Real Estate

The real estate business is primarily engaged in transactions or exchanges of real estate or brokerage or intermediation for the purchase, sale, lease, or exchange of real estate. It consists of developers who develop commercial facilities, buildings, residential apartments, resort facilities, etc.; house builders who are engaged in housing; real estate brokers who intermediate the buying, selling, and leasing of properties; and management companies who manage the real estate properties.

Back

Factors: Rising temperatures, increased frequency and intensity of extreme weather events

Management resources: Core business | Markets/Customers | Adaptation business

Impacts

Residential facilities	Business facilities	Commercial facilities	Resort facilities	Market changes	Product /Service development
• Damage to buildings and other structures, increased costs for disaster prevention and mitigation measures, increased risk of business shutdowns, increased operating costs (air conditioning, repair and maintenance costs, etc.), and decreased asset values (e.g., in areas with high risk of flooding) • Decreased operating days of facilities due to impact on tourism resources, including deterioration and loss of natural resources (decreased sandy beaches, decreased snow depth in snow-covered mountains and coral bleaching, etc.) • Increased reputation risk due to damage to owned properties, increased damage insurance premiums, construction delays, rising construction costs, deteriorating building performance, and increased water procurement costs due to drought				• Increased demand for safe and secure living, working, and facility use environments • Increased demand for buildings with high climate resilience and environmental performance • Increased pressure from investors to disclose information on climate change adaptation	• Increased demand for safe and secure living, working, and facility use environments • Increased demand for buildings with high climate resilience • Increased demand for buildings and towns with high environmental performance • Deterioration and loss of natural resources and fewer days of facility operation
• Deterioration of living environment due to rising temperatures	• Deterioration of working environment due to rising temperatures	• Deterioration of customer usage environment due to rising temperatures • Decreased number of facility operation days and number of facility visitors • Increased risk of business shutdowns due to supply chain disruptions	• Blocked traffic access due to landslides		

Adaptation measures: Soft | Hard | Soft | Hard | Soft | Hard

Details

Soft	Hard	Soft	Hard	Soft	Hard
＜General＞ • Formulate and operate BCP (strengthen disaster response, disaster drills and inspections, etc.) • Review site selection and design conditions (e.g., select sites using hazard maps that take future projections into account) • Review design conditions and standards to ensure building performance • Provide information during real estate transactions (explain flood risks) • Utilize the Resilience Certification System • Acquire weather information at an early stage and plan disaster prevention measures • Take out damage insurance • Disclose information on climate change response • Conduct regular inspections of buildings and facilities ＜Resort Facilities＞ • Create additional activities to attract more customers	＜General＞ • Strengthen resilience of buildings and infrastructure (implement flood prevention measures such as water barrier panels and site elevation, introduce green infrastructure, high-performance thermal insulation, solar shielding, and highly efficient air conditioning). • Locate critical facilities on upper floors (relocate power receiving and transforming equipment, etc. to safer areas) • Strengthen disaster prevention and mitigation measures • Reinforce fire resistance, install fire prevention strips, etc. • Maintenan and manage facilities (implement renewal projects) ＜Resort facilities＞ • Use artificial snowfall machines, etc. at ski resorts (snow harvesting from snowfall areas, strengthen efforts to attract customers during summer season) • Strengthen transport access • Improve facilities to attract more visitors and make it a year-round destination (new activities, support for ‘workcation’ , etc.)	• Construct buildings with high climate resilience/environmental performance (ZEB, ZEH, etc.) • Invest in sustainable and resilient urban development • Invest in disaster prevention and mitigation measures • Strengthen maintenance and management of facilities • Respond to TCFD and other information disclosure		• Develop climate resilient buildings and other infrastructure • Develop climate resilient infrastructure • Develop buildings with high environmental performance such as ZEB and ZEH • Develop smart cities • Develop business to help resorts attract more visitors (creation of new business that contributes to year-round visitor attraction)	

Effect	Medium	Medium ~ High	Medium ~ High	-
Cost	Low ~ Medium	Medium ~ High	Medium ~ High	-
Time span	Short ~ Medium	Short ~ Long	Short ~ Long	-

How to proceed with adaptation measures

【Current approach】The main focus is on efforts to avoid or mitigate decrease in real estate values by addressing weather-related disasters based on past experience and strengthening resilience of facilities.

【Climate change-aware approach】It is important to assess the risks to properties based on projections of the future impacts of climate change and the measures to address them. Risks and opportunities should be identified based on scenarios assumed by the company, and countermeasures should be incorporated into business plans.

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