Climate Change Risk Impact Assessment

Riverdale Healthcare

Context

Extreme weather events resulting from climate change have intensified over the last seven years, posing significant challenges to the resilience of the built environment. Climate-induced physical hazards can affect both tangible built assets and their business supply chains, resulting in impacts across the entire investment cycle, such as increases in insurance premiums and higher incidences of stranded assets. To ensure that climate related risks are effectively considered and priced into financial and organisational governance decisions, physical hazard risk assessments can be utilised to understand the risks a built asset faces across its lifetime.

Mandatory disclosure of climate-related risks is in force for large organisations and financial institutions within the United Kingdom, aligned with the Task Force on Climate-Related Financial Disclosures' (TCFD) recommendations. This requirement is likely to expand to include smaller organisations by 2025. For asset owning organisations, alongside reporting transition risks from reducing greenhouse gas emissions, this will include a requirement to consider, measure, and report their risks arising from physical climate-related risks.

Summary

This report outlines a strategic risk assessment for Riverdale Healthcare as a business and not individual level built environments in offices and practices. The assessment was conducted in accordance with UKGBC guidance*

Overall, risk is low to moderate across the estate, considering locations of current premises. There are no premises identified that are located in fire risk zones, flood zones or coastal areas with significant risks.

Transition risks
Policy and legal risk (e.g., compliance costs, stranded assets, asset depreciation) LOW
Market and economic risk (e.g., company valuation, asset impairment, credit rating) LOW
Technology risk (e.g., write-offs for old systems displaced by new technologies) LOW
Reputation risk (e.g., brand value) LOW

Physical risks
Acute physical risk (e.g., physical assets, insurance liabilities) MED
Chronic physical risk (e.g., resource availability, including labour) LOW

Opportunities
Resource efficiency (e.g., more efficient modes of transport and water usage) LOW
Energy source incentives (e.g., lower-emission sources, supportive policies) MED
Innovative products and services (e.g., low-emission goods and services) LOW
New market opportunity (e.g., diversifying through new markets or types of assets) LOW

Findings

Whilst there are clear risks to all UK businesses, Riverdale Healthcare has capacity to respond and there are no risks that are outstanding or cause undue concern. Like all businesses, there are likely to be financial costs associated with climate change but these are not considered to be likely to impact to a greater degree than any other organisation with a similar structure and operating model. The company is actively exploring opportunities as part of its commitment to ESG.

It is anticipated that climate-related business impact on Riverdale Healthcare will include increased insurance costs, increased repair costs, disruption to the supply chain and on both staff and customer attendance due to a likely increase in extreme weather events but these are currently considered to have a likely low impact. The company may wish to consider local assessments to be carried out for each premises across the portfolio.

Table 1: Classification of climate related hazards

	Temperature-related	Wind-related	Water-related	Solid mass-related
Chronic hazards *(slow-onset)*	Changing temperature (air, freshwater, marine water)	**Changing wind patterns**	**Changing precipitation patterns and types (rain, hail, snow/ice)**	**Coastal erosion**
	Heat stress		Precipitation and/or hydrological variability	Soil degradation
	Temperature variability		Ocean acidification	**Soil erosion**
	Permafrost thawing		**Saline intrusion***	Solifluction**
			Sea level rise	
			Water stress	
Acute hazards *(extreme)*	**Heat wave**	Cyclone, hurricane, typhoon	**Drought**	Avalanche
	Cold/frost wave	Storm (including blizzards, dust and sand storms)	**Heavy precipitation (rain, hail, snow/ice)**	Landslide
	Wildfire	Tornado	**Flood (coastal, fluvial, pluvial, ground water)**	**Subsidence**
			Glacial lake outburst	

Riverdale Healthcare is considered to be at medium risk to the consequences of any or all of the above issues (see Table 3).

There are no factors which positively protect the business from the effects of the above, however there are also no negative factors which make the company more liable to impact.

The impact of the hazards is recognised but probability (see Table 2) is considered low. Over time, this is likely that hazards are more likely to occur and consequences, which are currently considered to be minor.

Likely action required following any hazard occurring is considered very low at present. However, this may rise or change over time.

Table 2: Classification of probability

Classification	Definition
High likelihood	The hazard event appears very likely in the short term and almost inevitable over the long term.
Likely	It is probable that an event an event is not inevitable, but possible in the short term and probable over the long term.
Low likelihood	Circumstances are under which an event could occur. However, it is by no means certain that even over a longer period such an event would take place and is less likely in the shorter term.
Unlikely	Circumstances are such that it is improbable that an event would occur even in the very long term.

Table 3: Definition of risk

		Consequence			
		Severe	**Medium**	**Mild**	**Minor**
Probability	**High likelihood**	**Very high risk**	**High risk**	**Moderate risk**	Moderate/low risk
	Likely	**High risk**	**Moderate risk**	Moderate/low risk	Low risk
	Low likelihood	**Moderate risk**	Moderate/low risk	Low risk	Very low risk
	Unlikely	Moderate/low risk	Low risk	Very low risk	Very low risk

Table 4: Classification of consequence

Classification	Definition	Examples
 **Severe**	• Impact to the built asset likely to result in catastrophic damage to buildings/property. • Built asset has substantial exposure to a potential loss. No or negligible effort to strengthen resilience of built asset. • Damage to buildings/structures or services or the environment rendering asset unsafe to occupy. • Asset is stranded. Demolition and full re-build of asset required or total write off of asset value. • Business interruption or direct damage resulting in total financial loss. • Asset becomes uninsurable. • ££££	• Extreme winds resulting in total structural failure or foundation damage resulting in instability. • Extreme flooding resulting in total structural failure. • Damage to essential infrastructure that is considered uneconomical to repair.
 **Medium**	• Impact to the built asset likely to result in high levels of damage to buildings/property, substantial re-build or substantial reduction in asset value. • Built asset has substantial exposure to a potential loss. Limited effort to strengthen resilience of built asset. • Damage to key buildings/structures/services or the environment rendering asset unsafe to occupy. • Business interruption or direct damage resulting in substantial financial loss or expenditure to resolve. • Insurance premiums on asset rises substantially. • £££	• Extreme winds causing full roof replacement. • Extreme flooding resulting in partial (e.g. ground floor) refurbishment. • Gas infrastructure damage to built asset.
 **Mild**	• Impact to the built asset likely to result in low levels of damage to business/property. • Built asset has some exposure to a potential loss. Efforts have been made to strengthen resilience of built asset. • Damage to buildings/structures/services rendering limited areas of the building unsafe to occupy or unsafe on a short-term basis. • Damage to vulnerable buildings/structures/services or the environment. • Limited business interruption or direct damage resulting in limited financial loss or expenditure to resolve. • ££	• Extreme winds causing broken windows. • Extreme flooding resulting in short-term access issues. • Loss of plants in a landscaping scheme.
 **Minor**	• Impact to the built asset likely to result in no or very low levels of damage to business/property. • Built asset has negligible exposure to a potential loss. Efforts have been made to strengthen resilience of built asset. • Damage to buildings/structures/services or the environment rendering limited areas of the building unsafe to occupy or unsafe on a very short-term basis. • Damage to vulnerable buildings/structures services or the environment. • No or limited business interruption that may result in no or negligible financial loss or expenditure to resolve. • £	• Extreme winds causing wind-blown debris requiring housekeeping. • Extreme flooding resulting in water driven debris requiring housekeeping.

Table 5: Classified risk and likely action required

Very high risk	Catastrophic impacts to the built asset are highly likely to occur from an identified hazard, OR, these impacts have already occurred. Realisation of the risk is likely to result in substantial liability. Urgent assessment (if not undertaken already) is required to clarify the risk and to determine the potential liability, likely followed by implementation of adaptation measures for the built asset.
High risk	Substantial impacts to the built asset is likely or highly likely to occur from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent assessment (if not undertaken already) is required to clarify the risk and to determine the potential liability. Implementation of adaptation measures for the built asset may be necessary in the short term and likely over the longer term.
Moderate risk	It is possible that impacts could arise to the built asset from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild. Assessment (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some implementation of adaptation measures may be required in the longer term.
Low risk	It is possible that impacts could arise to the built asset from an identified hazard, but it is likely that this impact, if realised, would at worst be relatively mild. Further assessment is not normally required and, although possible, it is unlikely that adaptation measures will be required.
Very low risk	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe. Further assessment is not normally required and, although possible, it is unlikely that adaptation measures will be required.

*Citation: A Framework for Measuring and Reporting of Climate-related Physical Risks to Built Assets. UK Green Building Council, 2022, London, UK.