ESP – Climate Change Risk Assessment

This document outlines and explains the climate change risks that ESP may face as a business due to rising global temperatures.

Background

As global temperatures continue to increase due to increasing carbon emissions, we continue to see significant impacts because of rise in sea level. This is impacting communities and business across the world. As part of the Climate Change Response (Zero Carbon) Amendment Act 2019, the New Zealand Government will carry out

- A national climate change risk assessment[1], every six years
- A national adaptation plan, produced two years after each risk assessment
- monitoring implementation of the national adaptation plan, to ensure accountability

Due to past emissions, the climate will continue to change well into the future. Global surface temperatures have warmed, on average, by about 1°C on average since the late 19th century (Met Office, 2015). In New Zealand, a warming of 1°C was also recorded between 1909 and 2018. Based on monthly mean temperatures relative to the 1981–2010 average temperature, the five warmest years were: 2016 (+0.8°C), 2018 and 1998 (tied on +0.8°C), 1999 (+0.7°C), and 2013 (+0.7°C) (NIWA, 2019).[2]

The climate change risk assessment identifies risks across 5 main domains:

Domain	Risk Level Present	Risk Level 2030	Risk Level 2050
Natural Environment	NA	NA	NA
Human	L	M	M
Economy	L	M	M
Built Environment	L	M	M
Governance	L	L	L

[1] https://environment.govt.nz/assets/Publications/Files/national-climate-change-risk-assessment-new-zealand-snapshot.pdf

[2] https://environment.govt.nz/assets/Publications/Files/national-climate-change-risk-assessment-main-report.pdf

Risks

The 43 risks identified in the national climate change risk assessment have been review and assessed for the impact it will have to ESP. Below are the risks that are applicable to ESP.

Domain	Risk	Present	2030	2050
Human	Risks to social cohesion and community wellbeing from displacement of individuals, families and communities, due to climate change impacts.	L	M	M
Human	Risks to physical health from exposure to storm events, heatwaves, vector-borne and zoonotic diseases, water availability and resource quality and accessibility, due to changes in temperature, rainfall and extreme weather events.	L	M	M
Human	Risks to mental health, identity, autonomy, and sense of belonging and wellbeing from trauma, due to ongoing sea-level rise, extreme weather events and drought.	L	M	M
Economy	Risks to business from economic costs associated with lost productivity, disaster relief expenditure and unfunded contingent liabilities due to extreme events and ongoing, gradual changes.	L	M	M
Economy	Risks to the insurability of assets due to ongoing sea-level rise and extreme weather events.	L	M	M
Economy	Risks to business from supply chain and distribution network disruptions due to extreme weather events and ongoing, gradual changes.	L	L	L
Built Environment	Risk to potable water supplies (availability and quality) due to changes in rainfall, temperature, drought, extreme weather events and ongoing sea-level rise.	L	M	M
Built Environment	Risks to buildings due to extreme weather events, drought, increased fire weather and ongoing sea-level rise.	L	M	M
Built Environment	Risk to wastewater and stormwater systems (and levels of service) due to extreme weather events and ongoing sea-level rise.	L	M	M

Domain	Risk	Present	2030	2050
Built Environment	Risks to electricity infrastructure due to changes in temperature, rainfall, snow, extreme weather events, wind and increased fire weather.	L	M	M
Governance	Risks to business from climate change-related litigation, due to inadequate or mistimed climate change adaptation.	L	L	L

Levels of Risks

Level	Definition
Low	Low likelihood of occurrence or/and human/economic impact
Moderate	Moderate likelihood of occurrence or/and human/economic impact
High	High likelihood of occurrence or/and human/economic impact