

JULY WEBINAR

Director lens on climate risk and opportunity



**Chapter
Zero** New Zealand
The Directors' Climate Forum

Hosted by



Institute of
DIRECTORS
NEW ZEALAND

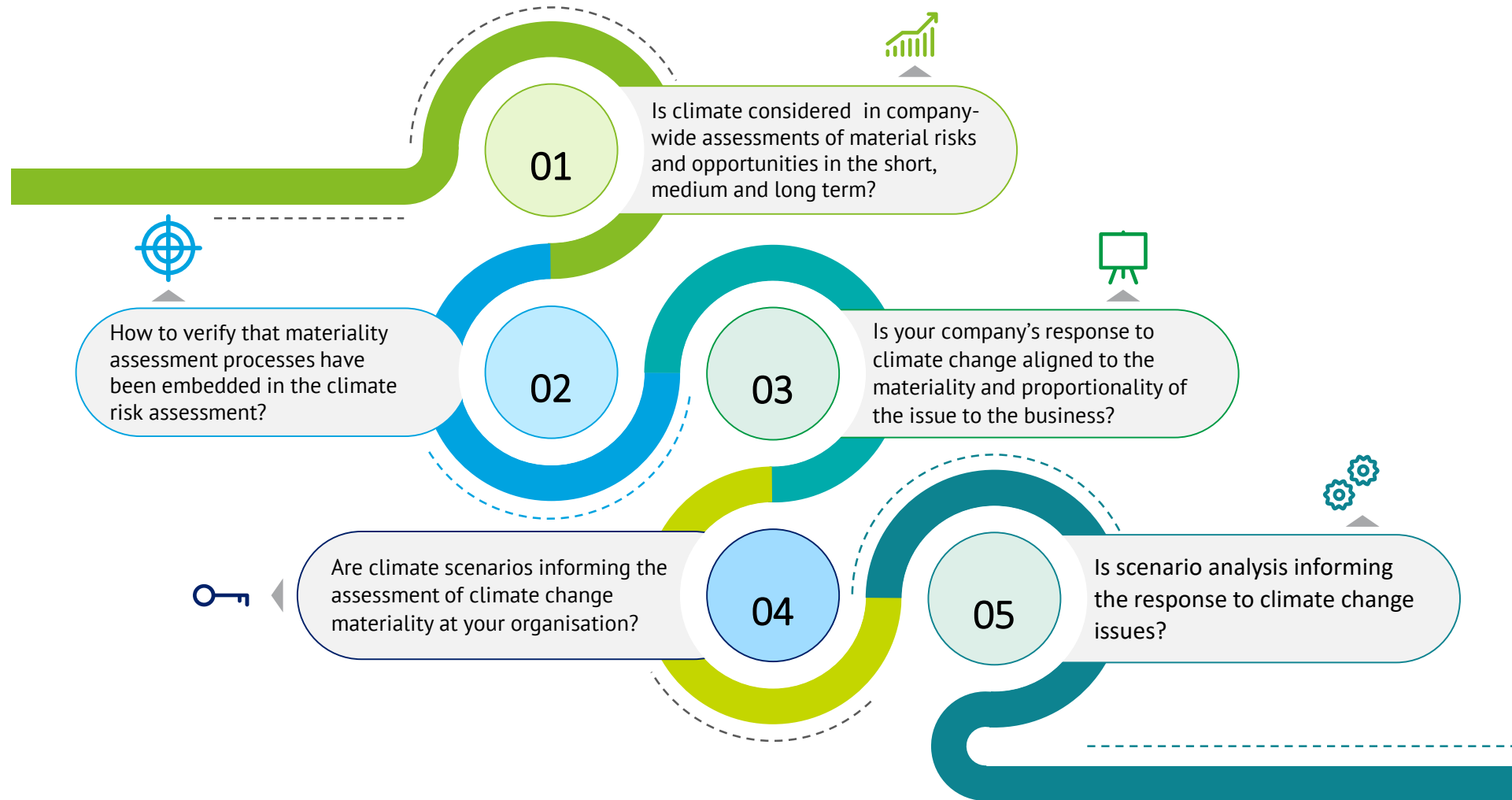


Identifying Material Climate Risk & Opportunity

July 2022



Session objectives



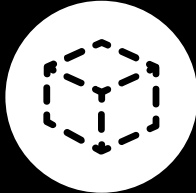
Material Risk & Opportunity



Identifying Material Risk and Opportunity

1

Scope and Boundary



2

Risk assessment



3

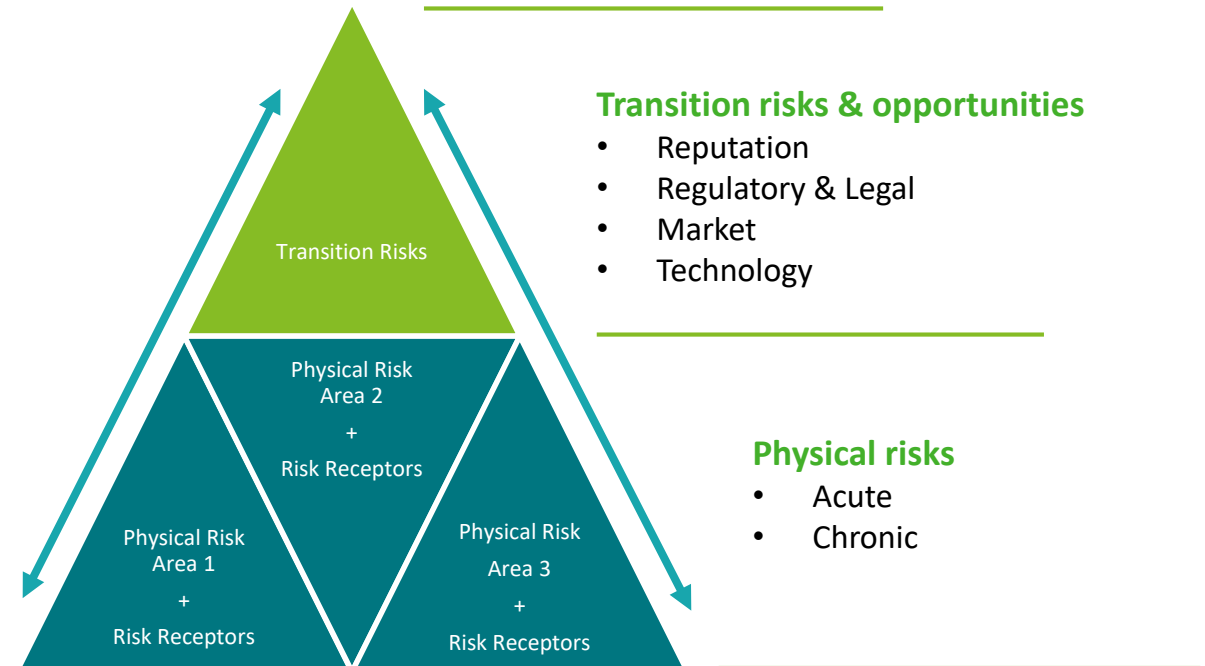
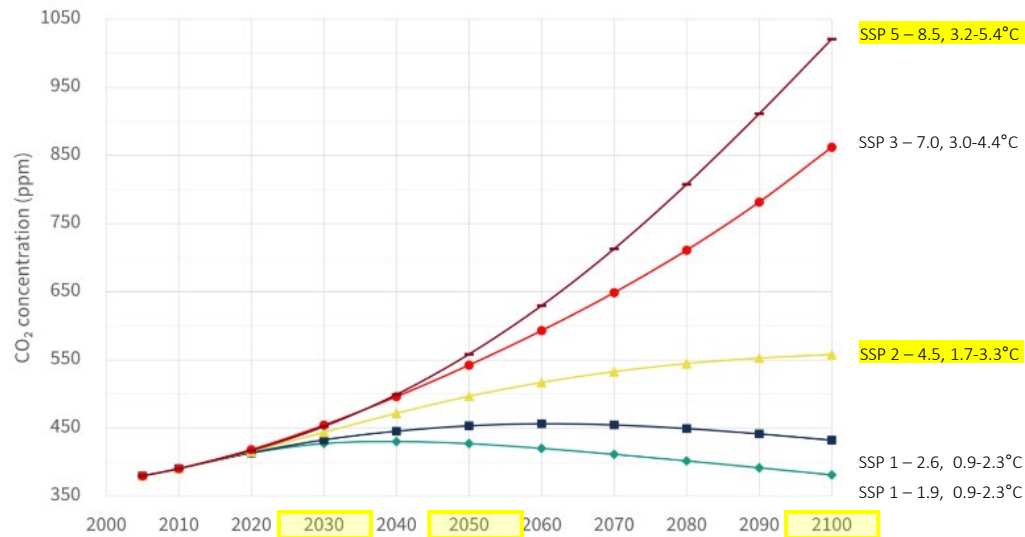
Step 3. Materiality analysis



Step 1. Scope and Boundary

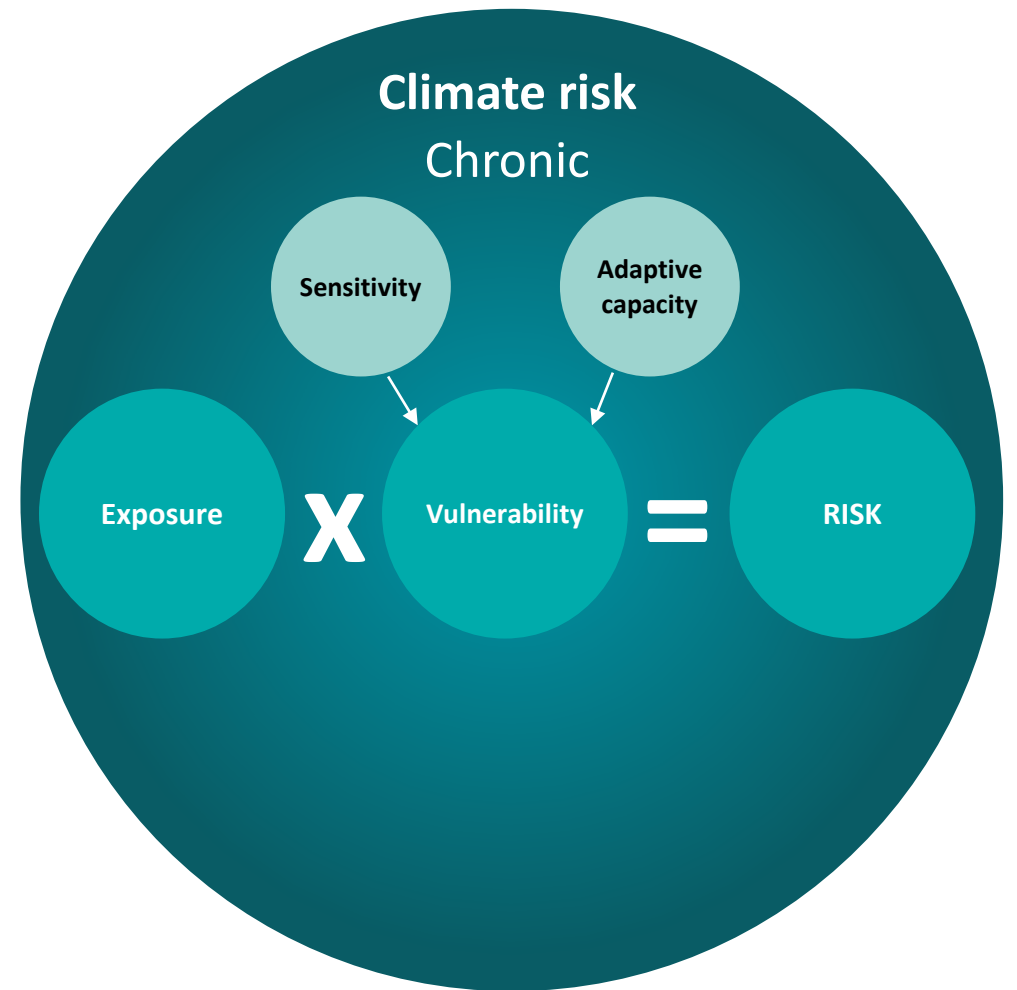
1. Define the scope and boundary of your risk & opportunities assessment – What are your risk areas and risk receptors?
2. Define the time horizons that you are assessing risk against.
3. Define the global warming scenarios that you will assess against.

Climate risk scenarios and strategic time horizons



Step 2. Risk Assessment

1. Identify the risks that climate hazards present to your organisation.
2. rate the risks against Exposure, Sensitivity, and Adaptive Capacity
 - for each time horizon; and
 - for each warming scenario.
3. **Ensure that you are CAPTURING the connection between inter-linked and cascading risks.**



Step 3. Materiality

Materiality 2

FINANCIAL MATERIALITY

To the extent necessary for an understanding of the company's development, performance and position...



COMPANY



Climate change impact on company



CLIMATE

Primary audience
INVESTORS

Materiality 1

ENVIRONMENTAL & SOCIAL MATERIALITY

...and impact of its activities.



COMPANY



Company impact on climate



CLIMATE

Primary audience
CONSUMERS, CIVIL SOCIETY, EMPLOYEES, INVESTORS



RECOMMENDATIONS OF THE CRD, ISSB and TCFD

Step 3. Materiality

IFRS:

Information is material if omitting, misstating or obscuring it could reasonably be expected to influence decisions that the primary users of general purpose financial statements make on the basis of those financial statements, which provide financial information about a specific reporting entity.

3. Quantify

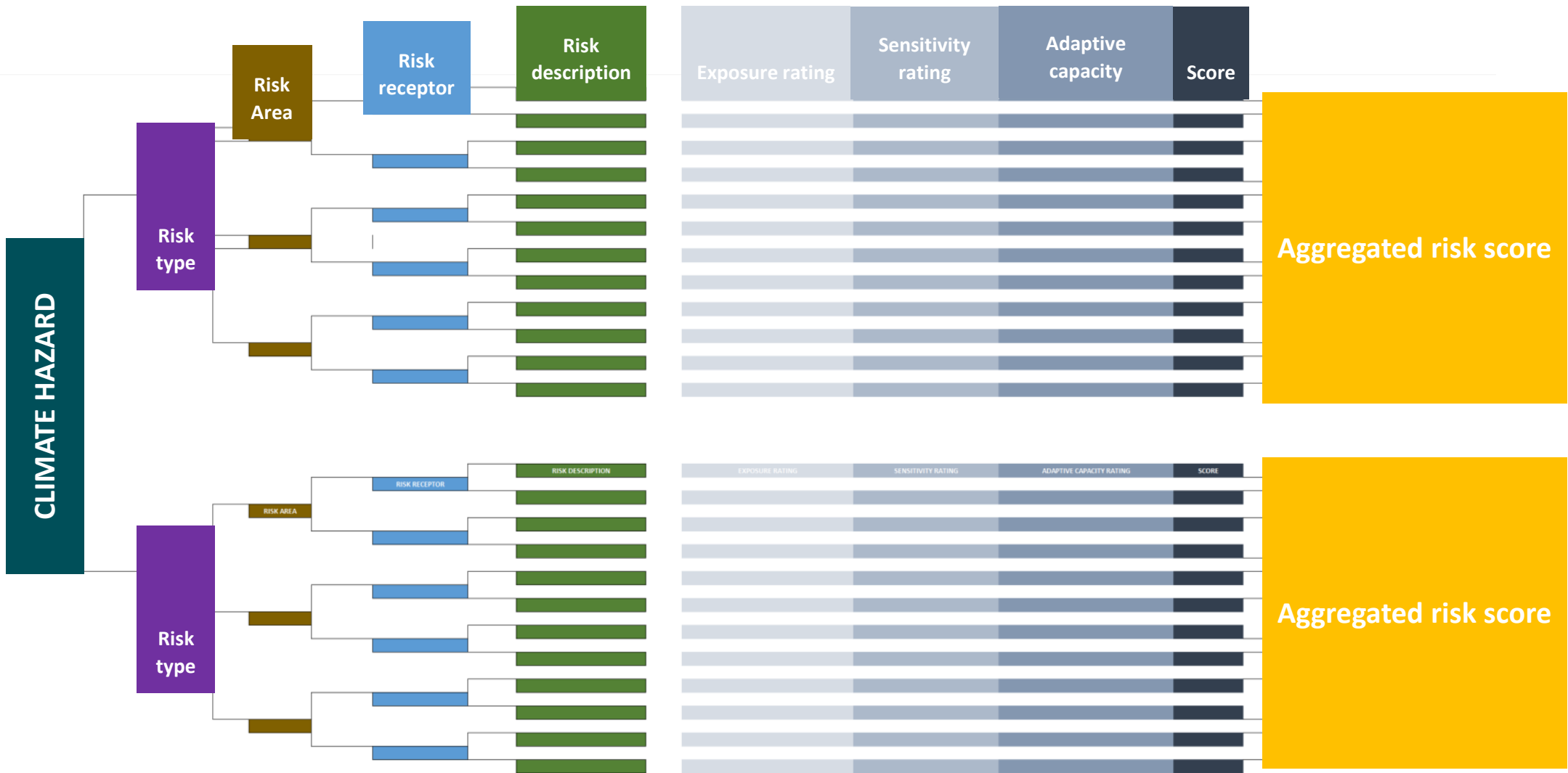
2. Prioritise

1. Identify

XRB:

Information is material if omitting, misstating, or obscuring it could reasonably be expected to influence decisions that primary users make on the basis of their **assessments of an entity's enterprise value across all time horizons**, including the long term."

Step 3. Materiality analysis



Step 3. Materiality analysis



Risk Assessment | Quant Model

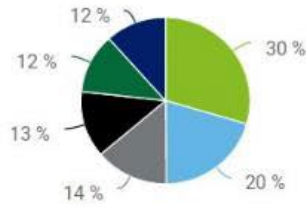
Identify top risks to inform adaptation planning focus and answer what is the most material risks that need to be solved going forward.

In Plan Version:

1. Add line as required, Select climate and risk dimension columns and enter in a description of the risk.
2. Input the score for each category by Year/RCP scenario. The Score is based on: 1 = low, 2 = med, 3 = high, 4 = extreme
3. Frequently save amendments

(Tips and Tricks: Right-click on chart and select risk or hazard dimensions to see breakdowns)

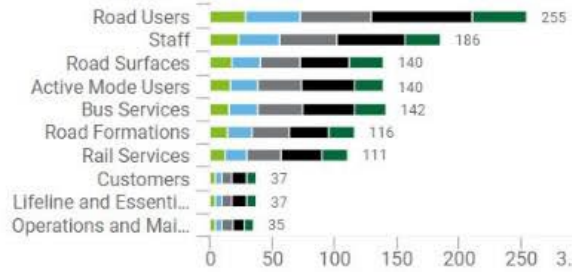
Climate Hazard Breakdown



● Coastal inundation (SLR MHWs)
● Invasive pest species (proliferation)
● Increased rare intense rainfall events
▲ 1/3 ▼

FY2022

Top 10 - Risk Receptor Score Breakdown



● 2100 RCP 8.5 ● 2100 RCP 4.5 ● 2050 RCP 8.5
● 2050 RCP 4.5 ● Present day

FY2022

Score by Risk Type and Receptor



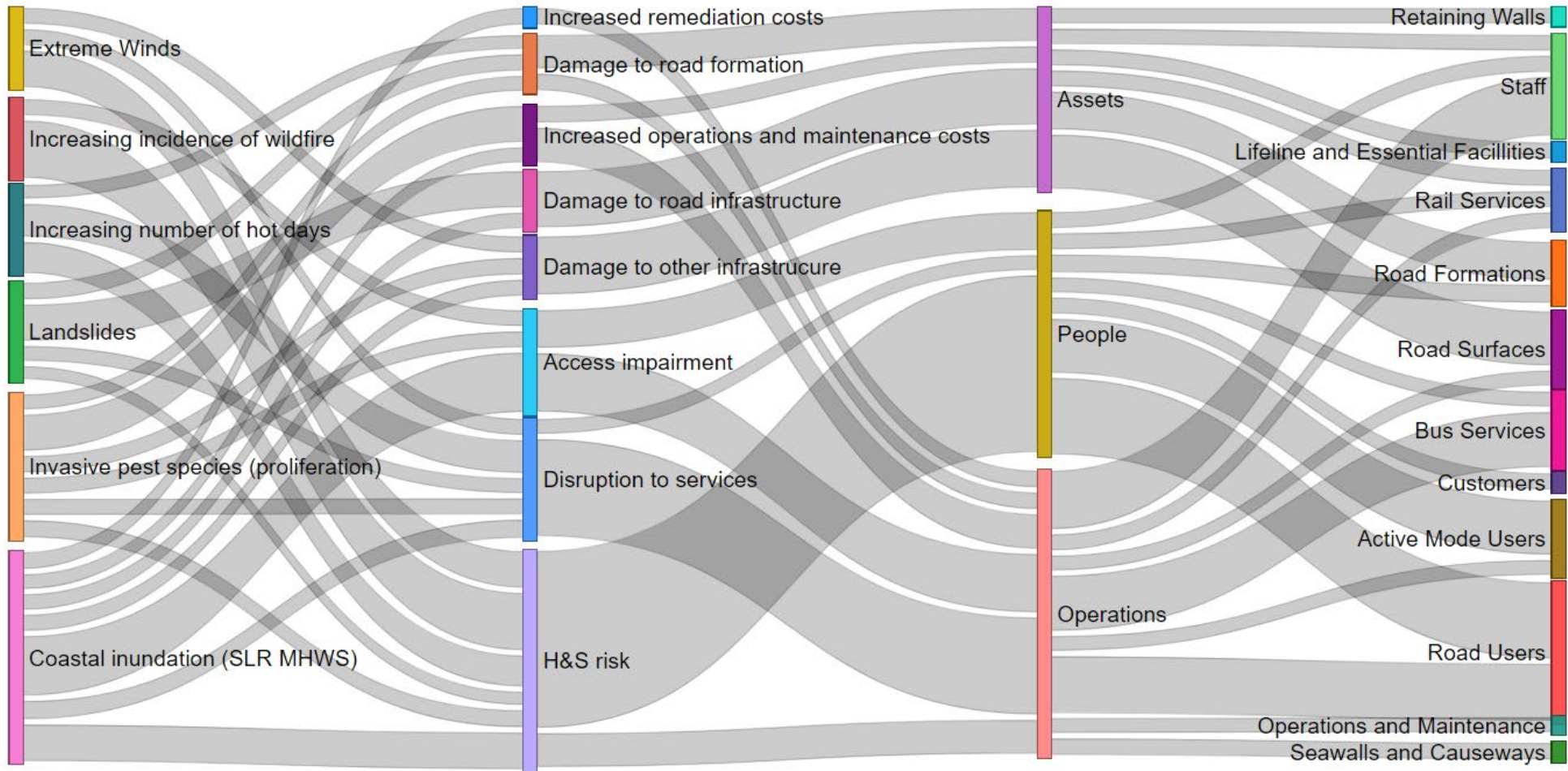
Consolidated Risk Score:
● Road Surfaces ● Bus Services
● Staff ● Retaining Walls
▲ 1/4 ▼

FY2022

Risk Assessment - Quant Model

#	LEVEL	CA_CLIMATE HAZARD *	CA_RISK TYPE *	CA_RISK AREA...	CA_RISK RECEPTOR *	RISK DESCRIPTION	EXPOSURE >...	2100 - RCP 8.5	ADAPTIVE CAPACITY >>>	PRESENT	2050 - RCP 4.5	2050 - RCP 8.5	2100 - RCP 8.5
1	RST Infrastructure Limited ClimateAdapt	Coastal inundation (SLR MHWs)	Access impairment	Operations	Road Users	SLR and storm surge impact		2		1	4	2	
2	RST Infrastructure Limited ClimateAdapt	Coastal inundation (SLR MHWs)	Access impairment	Operations	Staff	SLR and Storm surge impact		2		1	2	2	
3	RST Infrastructure Limited ClimateAdapt	Coastal inundation (SLR MHWs)	Access impairment	People	Active Mode Users	SLR and Storm surge impact		2		1	1	3	
4	RST Infrastructure Limited ClimateAdapt	Increasing incidence of wildfire	Access impairment	Operations	Rail Services	Wildfire can impact on all		2		1	1	1	
5	RST Infrastructure Limited ClimateAdapt	Invasive pest species (proliferation)	Access impairment	People	Staff	Excessive plant growth can		2		1	1	1	
6	RST Infrastructure Limited ClimateAdapt	Coastal inundation (SLR MHWs)	Damage to other infrastructure	Assets	Rail Services	SLR and Storm surge impact		2		1	1	4	
7	RST Infrastructure Limited ClimateAdapt	Extreme Winds	Damage to other infrastructure	Assets	Lifeline and Essential Facilities	Higher winds cause signa		2		1	1	1	
8	RST Infrastructure Limited ClimateAdapt	Invasive pest species (proliferation)	Damage to other infrastructure	Assets	Road Formations	Excessive plant growth re		2		1	1	4	
9	RST Infrastructure Limited ClimateAdapt	Increased rare intense rainfall events	Damage to road formation	Operations	Bus Services	Increased rare intense rain		3		1	1	1	
10	RST Infrastructure Limited ClimateAdapt	Increasing number of hot days	Damage to road formation	Assets	Road Surfaces	Increase temperature resu		4		1	1	1	
11	RST Infrastructure Limited ClimateAdapt	Invasive pest species (proliferation)	Damage to road formation	Assets	Road Surfaces	Excessive plant growth ca		2		1	1	1	
12	RST Infrastructure Limited ClimateAdapt	Coastal inundation (SLR MHWs)	Damage to road infrastructure	Assets	Staff	SLR and storm surges cau		2		1	1	3	
13	RST Infrastructure Limited ClimateAdapt	Increased rare intense rainfall events	Damage to road infrastructure	Assets	Road Surfaces	Increased rare intense rain		2		1	1	2	
14	RST Infrastructure Limited ClimateAdapt	Increased rare intense rainfall events	Damage to road infrastructure	Assets	Retaining Walls	Increased rare intense rain		3		1	1	1	
15	RST Infrastructure Limited ClimateAdapt	Coastal inundation (SLR MHWs)	Disruption to services	Operations	Staff	SLR and Storm surge mak		2		1	3	4	
16	RST Infrastructure Limited ClimateAdapt	Extreme Winds	Disruption to services	Operations	Road Users	High winds cause bridge c		2		1	1	1	
17	RST Infrastructure Limited ClimateAdapt	Increased rare intense rainfall events	Disruption to services	Operations	Active Mode Users	Increased rare intense rain		1		1	1	1	
18	RST Infrastructure Limited ClimateAdapt	Increasing number of hot days	Disruption to services	People	Bus Services	Asphalt flushing increases		2		1	1	2	
19	RST Infrastructure Limited ClimateAdapt	Increasing number of hot days	Disruption to services	Operations	Bus Services	Higher temperature cause		1		1	1	3	

Step 3. Visualising materiality – Identifying exposure



Climate Hazard

All

Risk Type

All

Risk Area

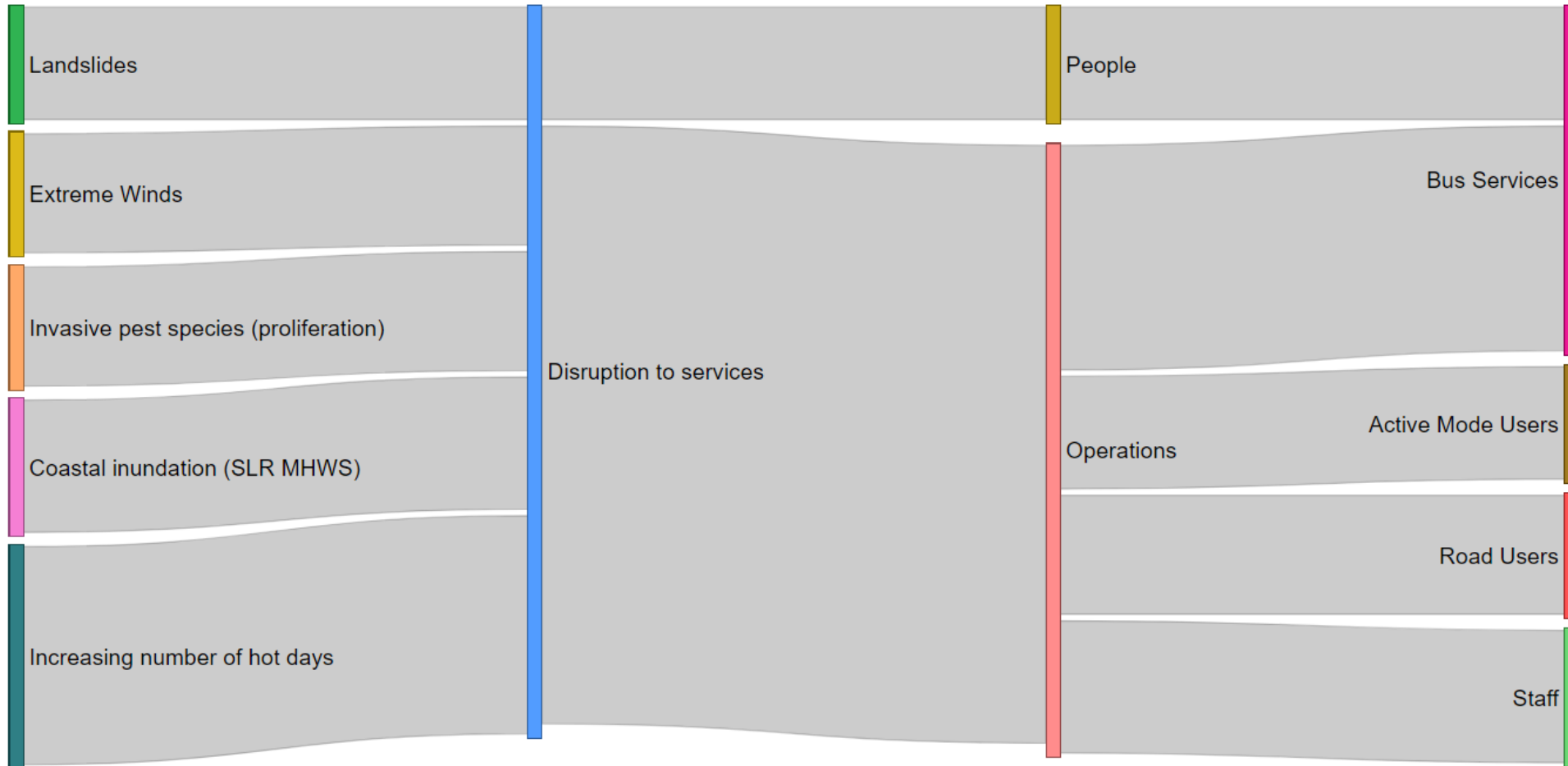
All

Risk Receptor

All

Step 3. Visualising materiality by risk type (Disrupted service)

What causes disruption to services and what is impacted by this?



Climate Hazard

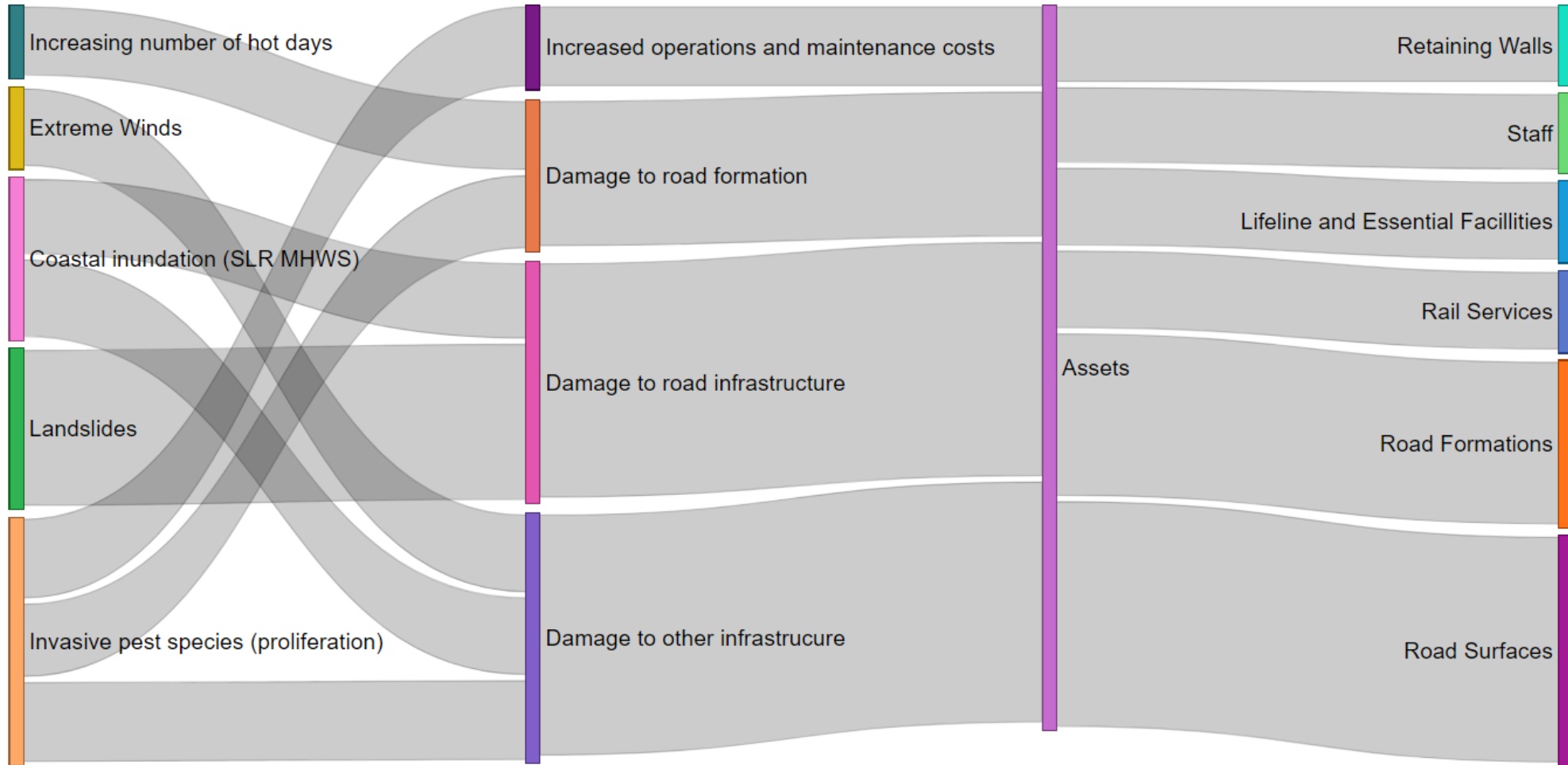
Risk Type

Risk Area

Risk Receptor

Step 3. Visualising materiality by risk area (Assets)

What are the main risks and climate stressors presenting for assets? What is subsequently impacted?



Climate Hazard

All

Risk Type

All

Risk Area

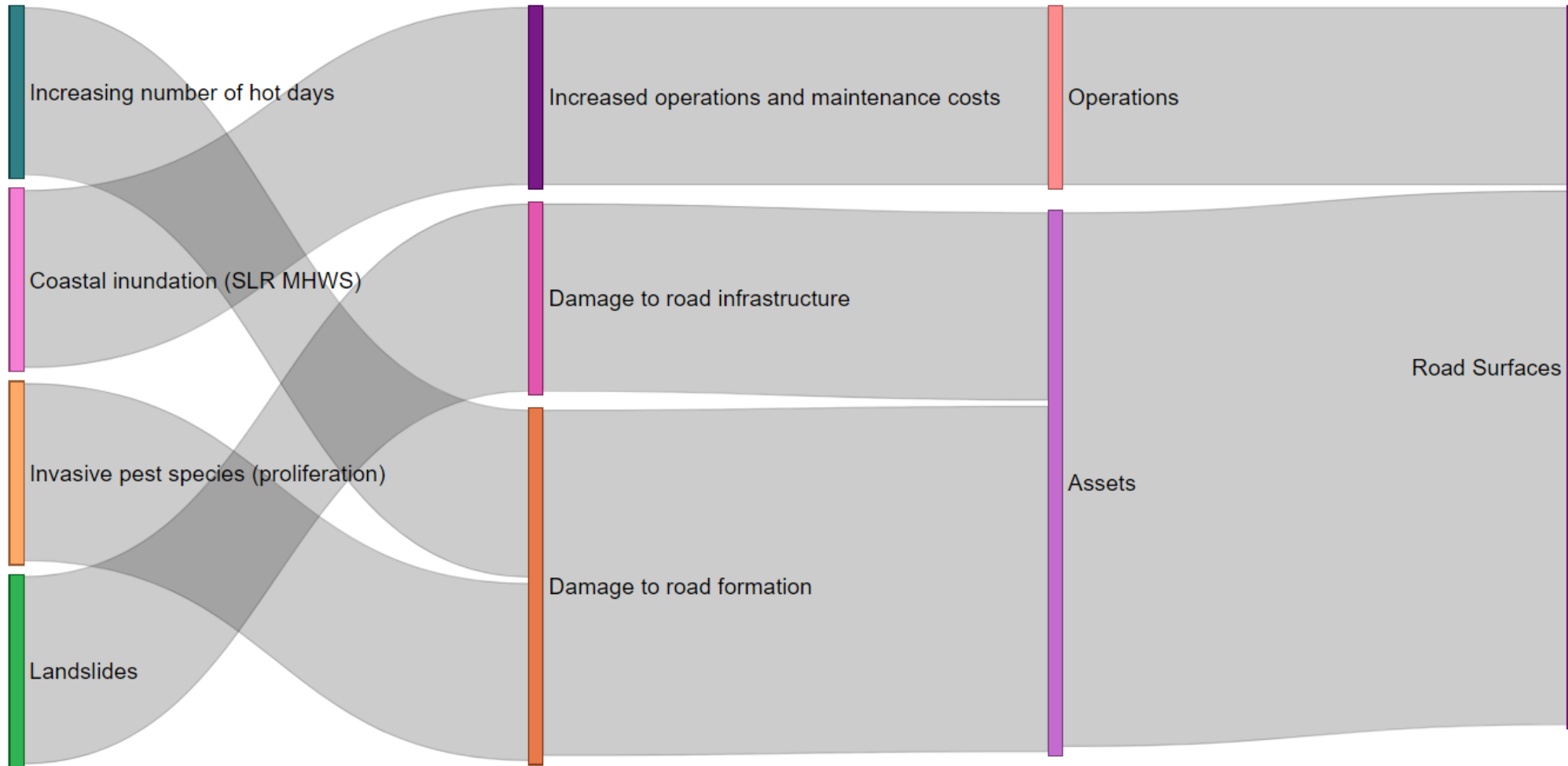
Assets

Risk Receptor

All

Step 3. Visualising materiality: Risk receptor (road surfaces)

What factors are impacting on road surface condition? What does your adaptation plan need to factor in?



Climate Hazard

All

Risk Type

All

Risk Area

All

Risk Receptor

Road Surfaces

Step 4. Identifying holistic adaptation options

Unlocking opportunity



- Divert plastic waste from landfill and use as a roading surface resource
- Pervious surface allows for soak-away, mitigates surface flooding
- Cavity accommodates lifeline utilities and dynamic wireless power transfer (DWPT) for EVs
- Dynamic Wireless Power Transfer incorporated into modular road system means batteries are smaller, vehicles are lighter, road surface design life is not compromised
- Modular design enables quick repairs, reduces delays and associated economic costs
- Sidewalk surface pervious and tree root cell matrix prevents root damage to all pavements



How can Directors frame questions to the Executive Management team, to ensure that materiality assessments are being undertaken appropriately?

The World Economic Forum Climate Governance Initiative's guidance

What the World Economic Forum Climate Risk Governance Initiative suggests you should be asking

1. Is climate considered in company-wide assessments of material risks and opportunities in the short, medium and long term?
2. How does your board verify that the company has embedded effective materiality assessment processes in relation to climate risks and opportunities?
3. Are short-, medium- and long-term time frames considered in materiality assessments at your organization?
4. Are the definitions of these time frames appropriate for your organization specifically (depending on the sector, size, investment time frames etc. of your organization)?
5. How are climate-related materiality assessments conducted? Are they integrated into budget or operating cycle planning?
6. Are different climate scenarios being included to inform the assessment of climate change materiality at your organization?
7. How often are climate-related scenario analyses repeated? Does your board feel this frequency is proportionate to the climate risk exposure of the company (i.e. do they take place sufficiently frequently)? Do your investors share the board view?
8. Are climate scenarios conducted in such a way that the results can be used to inform the company's or board's action or response to climate issues?

...and how this relates to XRB's NZ CS 1



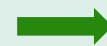
1. NZ CS1 Risk Management Section Disclosure 17a



2. NZ CS1 Risk Management Section Disclosure 18a



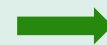
3. NZ CS1 Risk Management Section Disclosure 18b



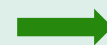
4. NZ CS1 Risk Management Section Disclosure 13a



5. NZ CS1 Risk Management section Disclosure 13d, 14b



6. NZ CS1 Risk Management section Disclosure 14a



7. NZ CS1 Governance section Disclosure 7a



8. NZ CS1 Governance section Disclosure 8c

Kia ora!





Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited (“DTTL”), its global network of member firms, and their related entities (collectively, the “Deloitte organisation”). DTTL (also referred to as “Deloitte Global”) and each of its member firms and related entities are legally separate and independent entities, which cannot obligate or bind each other in respect of third parties. DTTL and each DTTL member firm and related entity is liable only for its own acts and omissions, and not those of each other. DTTL does not provide services to clients. Please see www.deloitte.com/about to learn more.

Deloitte Asia Pacific Limited is a company limited by guarantee and a member firm of DTTL. Members of Deloitte Asia Pacific Limited and their related entities, each of which are separate and independent legal entities, provide services from more than 100 cities across the region, including Auckland, Bangkok, Beijing, Hanoi, Hong Kong, Jakarta, Kuala Lumpur, Manila, Melbourne, Osaka, Seoul, Shanghai, Singapore, Sydney, Taipei and Tokyo.

Deloitte provides industry-leading audit and assurance, tax and legal, consulting, financial advisory, and risk advisory services to nearly 90% of the Fortune Global 500® and thousands of private companies. Our professionals deliver measurable and lasting results that help reinforce public trust in capital markets, enable clients to transform and thrive, and lead the way toward a stronger economy, a more equitable society and a sustainable world. Building on its 175-plus year history, Deloitte spans more than 150 countries and territories. Learn how Deloitte’s more than 345,000 people worldwide make an impact that matters at www.deloitte.com.

Deloitte New Zealand brings together more than 1600 specialist professionals providing audit, tax, technology and systems, strategy and performance improvement, risk management, corporate finance, business recovery, forensic and accounting services. Our people are based in Auckland, Hamilton, Rotorua, Wellington, Christchurch, Queenstown and Dunedin, serving clients that range from New Zealand’s largest companies and public sector organisations to smaller businesses with ambition to grow. For more information about Deloitte in New Zealand, look to our website www.deloitte.co.nz.

This communication contains general information only, and none of Deloitte Touche Tohmatsu Limited (“DTTL”), its global network of member firms or their related entities (collectively, the “Deloitte organisation”) is, by means of this communication, rendering professional advice or services. Before making any decision or taking any action that may affect your finances or your business, you should consult a qualified professional adviser.

No representations, warranties or undertakings (express or implied) are given as to the accuracy or completeness of the information in this communication, and none of DTTL, its member firms, related entities, employees or agents shall be liable or responsible for any loss or damage whatsoever arising directly or indirectly in connection with any person relying on this communication. DTTL and each of its member firms, and their related entities, are legally separate and independent entities.