

National Climate Change Risk Assessment

James Hughes



NCCRA – an overview

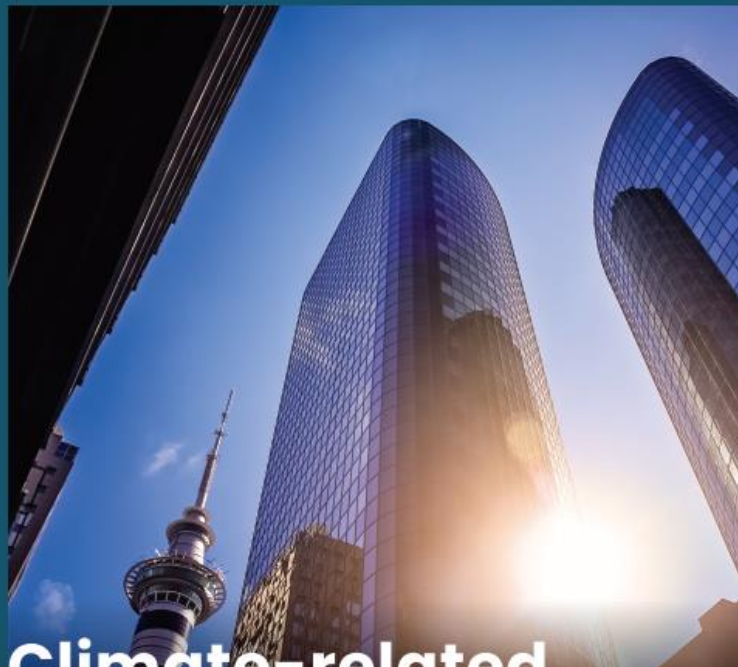
- New Zealand's first National Climate Change Risk Assessment
- Provides picture of how New Zealand may be affected by climate change-related hazards
- Enables Government to prioritise actions

National Climate Change Risk Assessment for New Zealand

Arotakenga Tūraru mō te Huringa
Āhuarangi o Āotearoa

Main report
Pūrongo Whakatōpū





Climate-related financial disclosures

UNDERSTANDING YOUR BUSINESS RISKS AND OPPORTUNITIES RELATED TO CLIMATE CHANGE

Discussion document



New Zealand Government

Reviewed: 14/09/20

Guidance for organisations requested to provide information under the Climate Change Response (Zero Carbon) Amendment Act 2019

Some organisations will be asked to report climate change-related information under the Climate Change Response (Zero Carbon) Amendment Act 2019 (CCRA). Find out what it might involve for your organisation. We will be contacting organisations from August 2020.

- About the requirement to report climate change information
- Will my organisation be asked to provide information?
- What information will be requested?
- When will my organisation receive a request for information?
- What will the information be used for?
- How will this reporting differ from the proposed mandatory climate-related financial disclosures?
- What will happen to the information my organisation provides?

About the requirement to report climate change information

Under the CCRA, the Minister for Climate Change and the independent Climate Change Commission have the power to request information from organisations that provide essential public services in New Zealand.

From August 2020 we will be asking some organisations to provide information on how they are responding to risks from climate change. This will initially be a high level request to understand general levels of preparedness.

The information is being collected to help the Government understand how these organisations are preparing for risks arising from climate change. It follows the publishing of the National Climate Change Risk Assessment on 3 August.

Will my organisation be asked to provide information?

There are currently over 600 organisations in New Zealand that could be asked to respond to requests for information.

As listed in Section 32W of the CCRA they include:

- lifeline utilities, which are public and private-sector entities providing fuel, electricity, water, transport, and telecommunications infrastructure
- local authorities
- central government, crown entities, and state-owned enterprises
- the Police and New Zealand Defence Force.



National Climate Change Risk Assessment for New Zealand

Arotakenga Tūraru mō te Huringa Āhuarangi o Āotearoa

Snapshot
Whakarāpopotonga



New Zealand Government

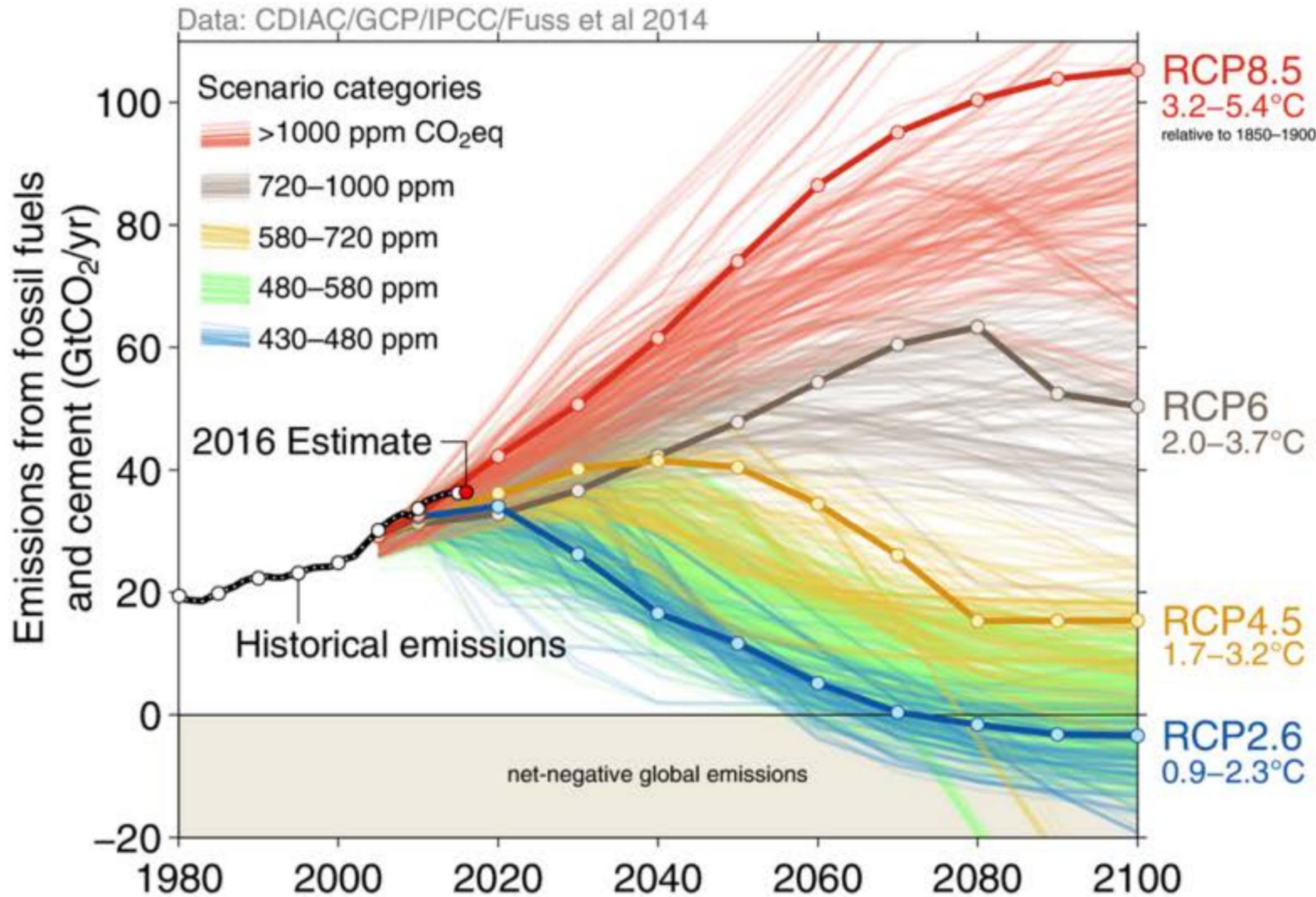


CONTROLLER AND AUDITOR-GENERAL
Tumuaki o te Mana Arotake

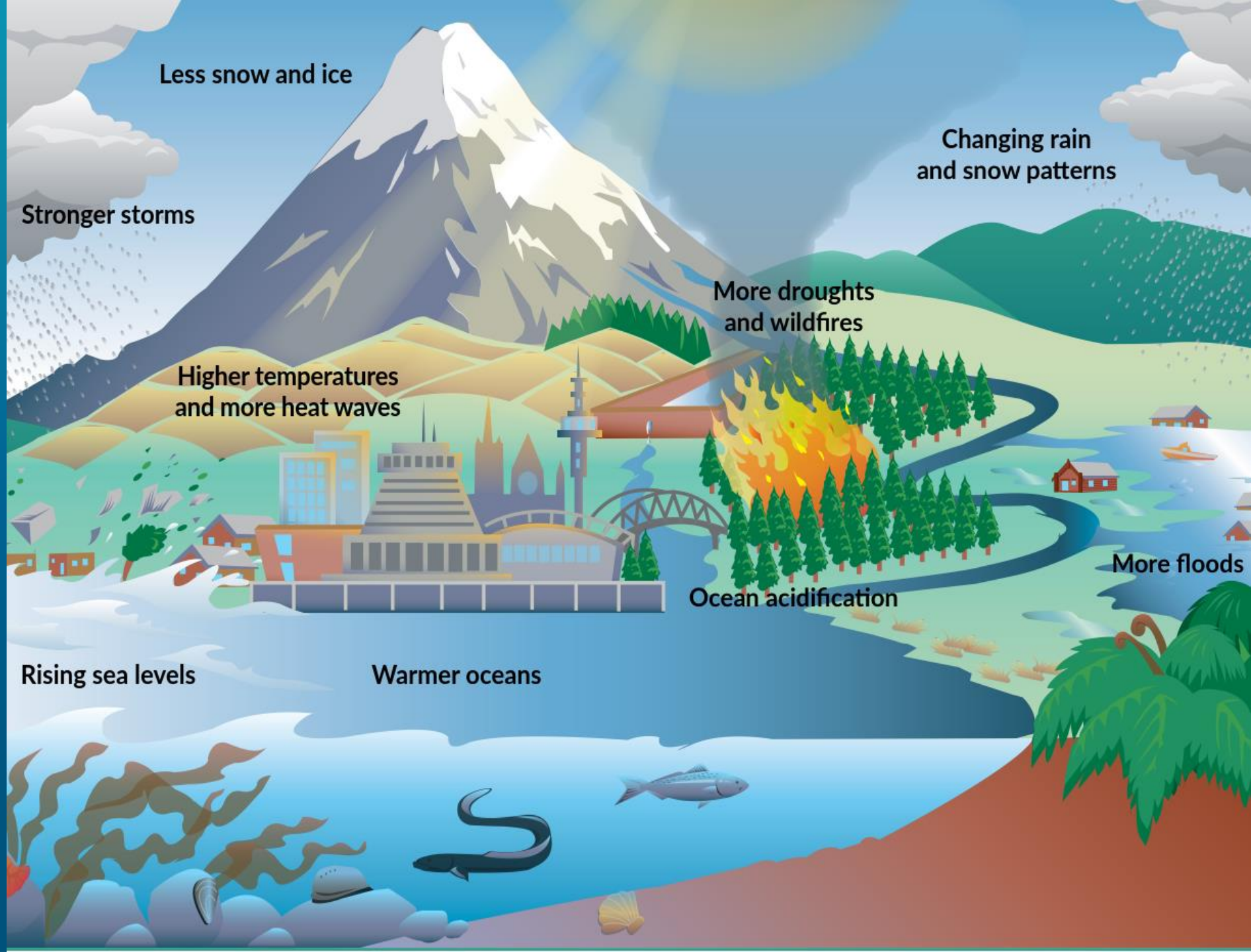
CLIMATE
CHANGE
COMMISSION



Uncertainty



Hazards



Risk Assessment Framework

- Provides the approach to assess and compare risks at a national level, including attributes, specifications, methodology, guidance and templates.

National Climate Change Risk Assessment

“What are the risks we face?”

- National overview of how New Zealand may be affected by climate change-related hazards.
- Identifies the ten most significant risks we face, that require urgent action.
- Highlights gaps in our knowledge that need to be filled.
- Presents information in three reports: a main report, technical report, and a method report.
- Informs the development of a National Adaptation Plan.

National Adaptation Plan

“How are we going to respond?”

- Produced by the Government. Responds to the most significant risks identified in the Risk Assessment.
- Outlines the Government’s approach to improve resilience to the effects of climate change, by identifying plans, policies, strategies, and proposals for addressing the most significant risks.
- The Government identifies measures and indicators within the Plan to enable the Climate Change Commission to monitor and report on the progress and effectiveness of implementing the Action Plan.

What is it?

STAGE 1: First-pass risk screen

Examine risks and opportunities across New Zealand.

Prioritise these for further assessment.

Result:

A set of 48 priority risks and five opportunities. Priority risks are those with extreme or major consequence ratings in at least one of three assessment timeframes (now, by 2050, by 2100).

STAGE 2: Detailed risk assessment

Examine the 48 risks.

Investigate vulnerability and exposure.

Clarify the consequences of these risks under two climate scenarios in the present term, near term and long term.

Result:

A set of 43 priority risks and four opportunities.

STAGE 3: Urgency for adaptation

Assess existing and planned adaptation and how high-level actions are addressing priority risks.

Identify:

- › where early action would avoid being locked into a current pathway
 - › actions needing long lead times
 - › actions with long-term implications.
-

Result:

Urgency ratings⁶ for adaptation, for each priority risk and opportunity.

Risk assessment stages

Headline risks

Natural environment

Coastal + indigenous ecosystems

Human

Social cohesion + wellbeing

Exacerbating + creating new inequities

Economy

Governments economic costs

Financial system instability

Built environment

Potable water supplies

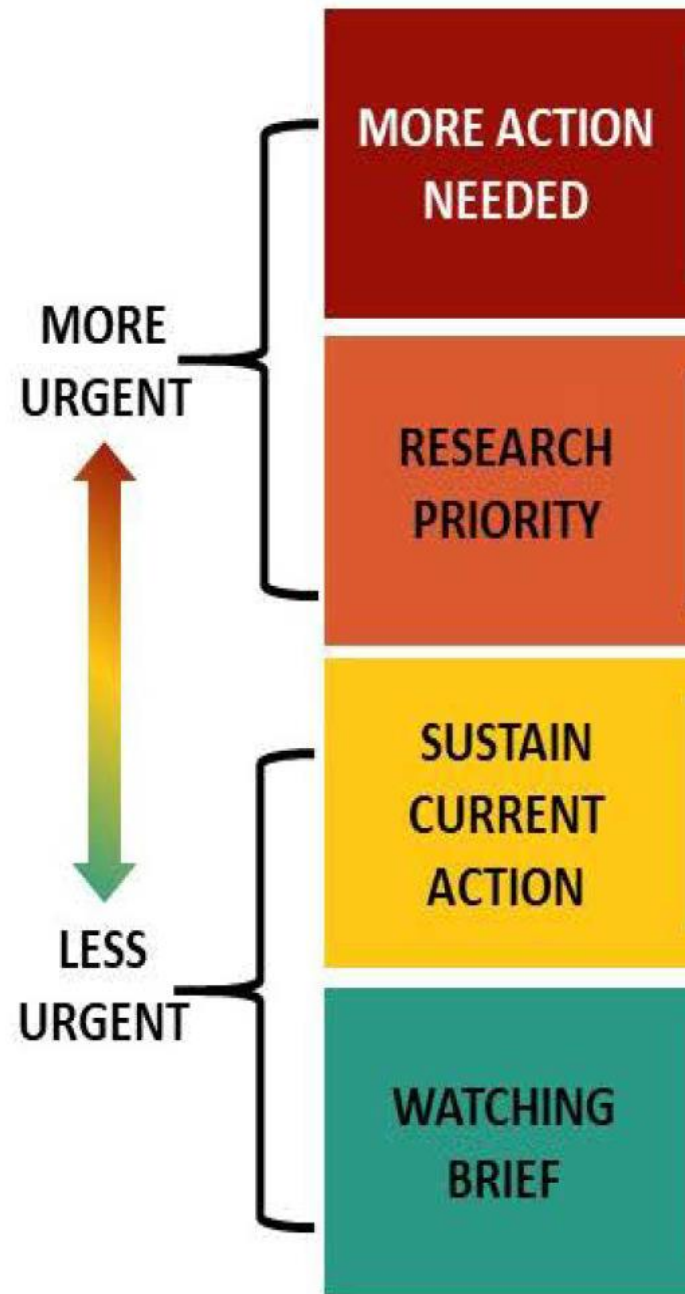
Buildings and communities

Governance

Maladaptation across all domains

Institutional arrangements not fit for purpose
or co-ordinated

Decision urgency



- Economic costs and liabilities from extreme events and gradual changes
- Risks to potable water
- Risks to social cohesion

- Risks to Maori and European cultural heritage sites
- Risks to landfills and contaminated sites

NCCRA

Built Environment Risks

Most significant risks

- Potable water supplies (availability and quality)
- Buildings and communities

Other priority risks examined in stage 2

- Landfills and contaminated land sites
- Wastewater and stormwater systems
- Ports and associated infrastructure
- Linear transport networks
- Airports
- Electricity infrastructure



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NCCRA Built Env Risks

Built Environment Risk	Risk Rating		
	Now	2050	2100
B1 Risk to potable water supplies (availability and quality) due to changes in rainfall, temperature, drought, extreme weather events and ongoing sea-level rise.	Major	Extreme	Extreme
B2 Risks to buildings due to extreme weather events, drought, increased fire weather and ongoing sea-level rise.	Major	Extreme	Extreme
B3 Risks to landfills and contaminated sites due to extreme weather events and ongoing sea-level rise.	Mod	Major	Major
B4 Risk to wastewater and stormwater systems (and levels of service) due to extreme weather events and ongoing sea-level rise.	Major	Extreme	Extreme
B5 Risks to ports and associated infrastructure due to extreme weather events and ongoing sea-level rise.	Min	Mod	Major
B6 Risks to linear transport networks due to changes in temperature, extreme weather events and ongoing sea-level rise.	Major	Major	Extreme
B7 Risk to airports due to changes in temperature, wind, extreme weather events and ongoing sea-level rise.	Major	Major	Extreme
B8 Risks to electricity infrastructure due to changes in temperature, rainfall, snow, extreme weather events, wind and increased fire weather.	Mod	Mod	Major



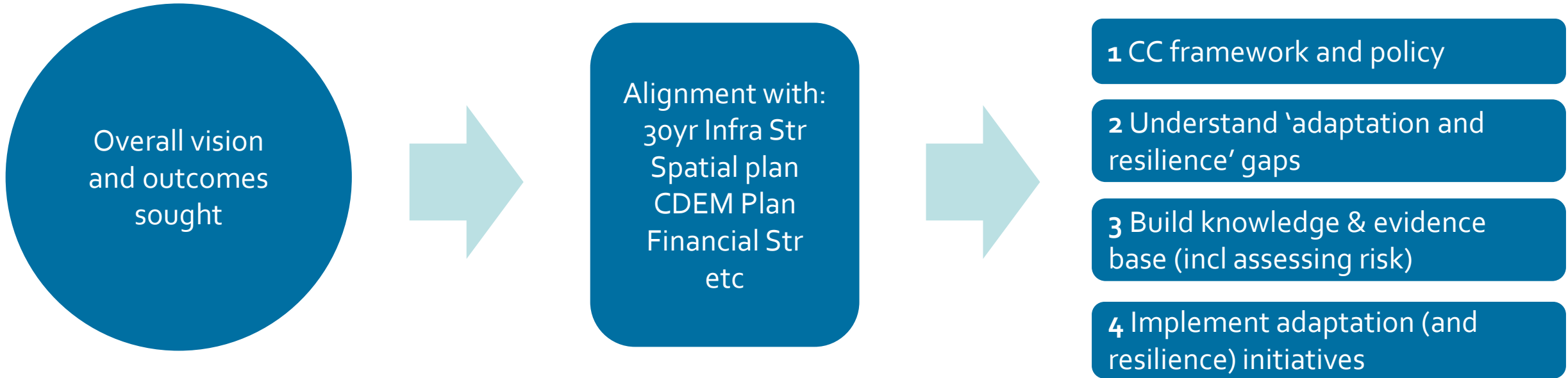
A photograph of a dry, brown lawn with a white sign in the foreground. The sign has black text. In the background, there is a multi-story building with balconies, trees, and a red fire hydrant on the left.

**PARDON THE
APPEARANCE OF
OUR LAWNS**

**DUE TO THE DROUGHT AND
CURRENT WATER RESTRICTIONS,
CALPERS HAS STOPPED
WATERING THE GRASS.**

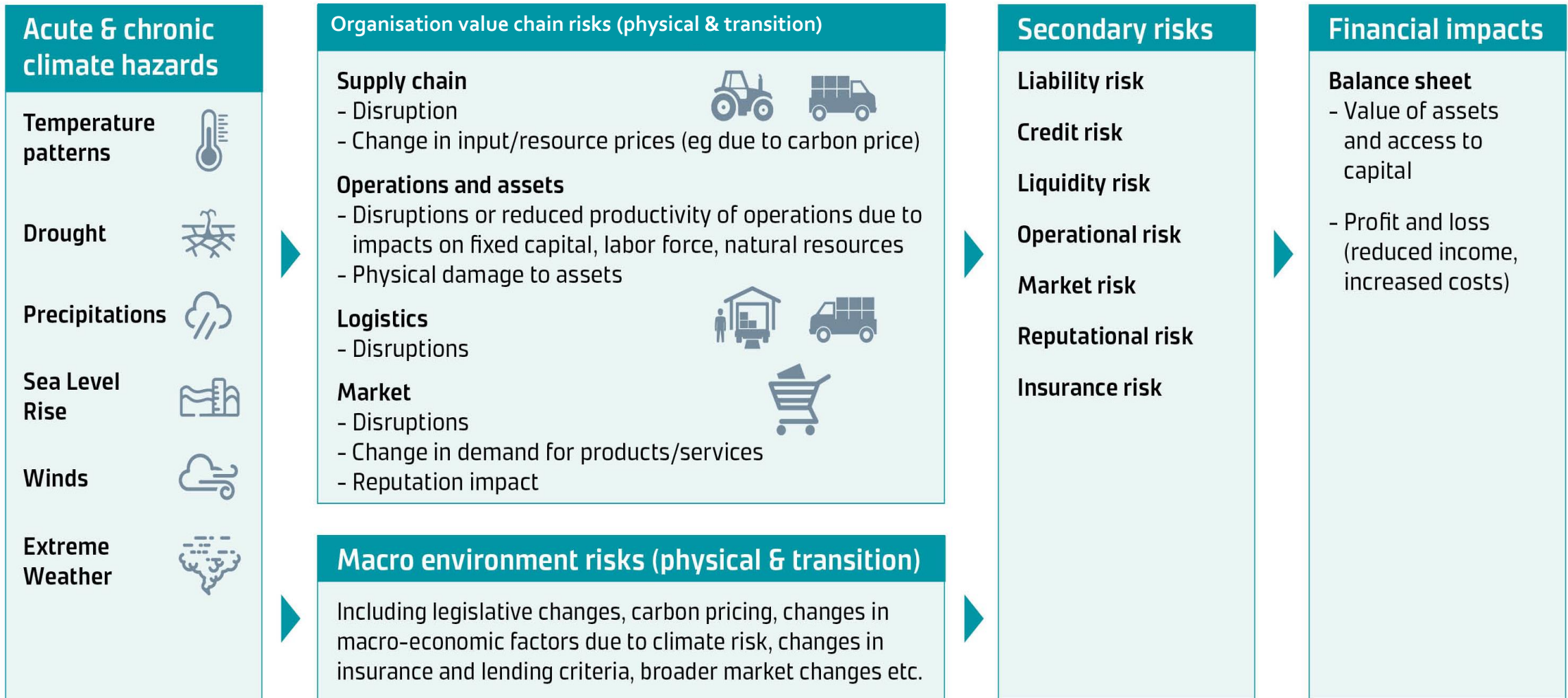
The background features a teal-to-green gradient with a faint, semi-transparent pattern of green leaves and branches. The text is centered in a bold, white, sans-serif font.

What does this mean for others?



Strategy for climate risk and resilience

For companies | Strategy for climate risk and resilience



Principles for a risk-based approach

- Needs to be tailored to the context:
 - National / district or regional risk assessment
 - Sectoral risk assessment (eg water sector, agricultural sector)
 - Industry / corporate risk assessment – TCFD
- Recognises the influence of uncertainty
- Must be transparent and repeatable – based on a robust framework
- Needs to involve all stakeholders and partners
- Must be cognisant of the level of granularity which is appropriate and achievable (lessons from NCCRA)

Principles for long-term planning

- 1 Factor climate risk into all decisions
- 2 Base decisions on local data / evidence + current national guidance
- 3 Cooperate and collaborate
- 4 Stewardship / kaitiakitanga and precaution
- 5 Prioritise the most vulnerable
- 6 Long term, adaptive thinking
- 7 Prioritise actions with multiple benefits or which have 'low-regrets'

“Human civilization is built on the premise that the level of the sea is stable, as indeed it has been for several thousand years”.

NY Times

