

# **Climate Action Policy**

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Version 1.0

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### 1.0 Policy Statement

The Far North District Council recognises that climate change presents an unprecedented challenge to our people and places (see Schedule One). Council is committed to supporting our communities to adapt to and mitigate the effects of climate change, and to promoting a transition to a sustainable, carbon neutral future. This policy supports council and community adaptation and mitigation measures by outlining clear goals, strategies, and actions to mitigate greenhouse gas emissions, adapt to changing climatic conditions, and to promote a sustainable future for generations to come. Definitions pertaining to the policy are found in Schedule Two.

### We will:

- 1. Reduce Green House Gas (GHG) emissions through sustainable business practices.
- 2. Build resilience by ensuring our operations and assets can withstand changing conditions.
- 3. Support sustainability by promoting eco-friendly products and reducing waste.
- 4. Work collaboratively with stakeholders and advocate for collective action to adapt to changing climatic conditions.

5. Innovate with sustainable technologies and business practices.

# 2.0 Application

This Climate Change Policy applies to the activities of Council's elected members, staff, and the organisations and people who are contracted to work for the Council.

This Policy cannot override Acts and regulations under New Zealand law. The Council will not apply this Policy in performing its regulatory functions where the assessment of climate impacts is governed by existing statutory processes (e.g., in the application of the District Plan and the assessment of resource consents).

### 3.0 Policy Objectives

- 3.1 Ensure that all Council's decision-making incorporates consideration of climate change risks (see Schedule One) and opportunities and meets statutory obligations.
- 3.2 Provide guidance on the Council's management of climate change risks and opportunities.
- 3.3 Ensure that measures and targets for GHG emissions reduction are put in place, with regular reporting on progress towards our responsibilities.

### 4.0 Principles

Council is committed to planning and responding to climate change. Foremost the Council will adhere to the principles of Te Tai Tokerau Climate Adaptation Strategy<sup>1</sup> adopted by Council in 2022. We will:

- **Whanaungatanga**: work together to build relationships and a sense of connection, enabling authentic partnerships and collaborative working relationships.
- **Ka mua, ka muri:** walk backwards into the future balancing todays needs and responsibilities with the rights of future generations and learning from the past.
- Matauranga Māori: engage with matauranga Māori and Western science to understand climate change
  and inform decision making. We will use research-led, evidence-based, values driven policy and
  decision making to proactively manage risks and identify opportunities.
- **Kaitiakitanga:** provide guardianship of Taiao in accordance with tikanga Māori, to mitigate and adapt to the changing climate.

### 5.0 Broad direction and goals

The Council's broad direction for its climate change response is guided by the government's national plans: the National Adaptation Plan<sup>2</sup> and the Emissions Reduction Plan – Te hau maahori ki anamata<sup>3</sup> (see Schedule 3).

#### **Policies**

5.1 The Council will align its climate-related planning and activities with central government direction on **emissions reduction** and climate **adaptation**.

<sup>&</sup>lt;sup>1</sup> Te Tai Tokerau Climate Adaptation Strategy 2022

<sup>&</sup>lt;sup>2</sup> National Adaptation Plan 2022

<sup>&</sup>lt;sup>3</sup> Emissions Reduction Plan 2022 – Te hau maahori ki anamata

- The Council will follow the **Taskforce on Climate-Related Financial Disclosures** (**TCFD recommendations**) in its response to climate change (see Schedule 4).
- 5.3 The Council will actively align its policies, practices, and actions with the objectives and priorities outlined in the Te Tai Tokerau Adaptation Strategy.

### 6.0 Sources of evidence

#### **Policies**

- 6.1 The Council's response to climate change will be based on evidence from the latest scientific sources, such as from the Ministry for the Environment, NIWA and the Northland Regional Council. (See Schedule 5).
- The Council will incorporate mātauranga Māori (Māori knowledge) alongside Western science in formulating its response to climate change.

### 7.0 Partnering with Māori

#### **Policies**

- 7.1 The Council will develop its climate change responses in partnership with Māori.
- 7.2 The Council will encourage, align with, and provide resources that support iwi- and hapū-led climate change responses to empower Māori in building resilience for Māori, by Māori.

### 8.0 Climate change mitigation

The Council has two mitigation goals stated in the Climate Change Roadmap<sup>4</sup>:

- 1) to reduce its own **greenhouse gas emissions** in line with the government's national **emission reduction** targets or better ("walking the talk")
- to promote and advise the businesses and communities of the Far North towards Carbon Zero 2050 ("reducing our carbon emissions together").

#### **Policies**

- 8.1 The Council will align its targets for emissions reduction with the latest government targets and align its planning for emissions reduction with the Emissions Reduction Plan Te hau maahori ki anamata.
- 8.2 The Council will apply the following hierarchy in relation to greenhouse gas emissions reduction:
  - (i) limit new emissions.
  - (ii) reduce existing emissions, including improving energy efficiency.
  - (iii) replace existing sources with lower emission options.
  - (iv) increase carbon sequestration.
  - (v) offset emissions.
- The Council will establish and actively follow an **operational emissions reduction** plan to achieve agreed **emissions reduction** and **carbon sequestration** or **offsetting** targets.
- The Council will undertake annual **inventories** of the council's **greenhouse gas emissions** to update the **operational emissions reduction** plan.

<sup>&</sup>lt;sup>4</sup> Climate Change Roadmap 2020

- 8.5 The Council's procurement practices will be reviewed and, where practicable be updated to:
  - support a circular economy approach.
  - reduce embodied emissions in the products Council purchases.
- 8.6 The Council will contribute to a regional emissions inventory to record greenhouse gas emissions across the district.
- 8.7 The Council will work with communities to prepare a district-wide community **emissions reduction** plans.
- 8.8 The Council will monitor progress towards achieving the objectives and targets of the regional **emissions reduction** plan for the district, and publicly report on progress every three years.

### 9.0 Climate change adaptation

The Council has two climate change adaptation goals in the Climate Change Roadmap 2020:

- 1) to future-proof its resources, assets, and services from the risks of climate change ("prudent future proofing")
- 2) to work with the communities of the Far North to prepare for and adapt to the impacts of climate change ("developing resilience").

#### **Policies**

- 9.1 The Council will quantify climate change risks to the district as a basis for implementing adaptation planning to build resilience in vulnerable and exposed communities.
- 9.2 The Council will implement a climate change education program to ensure communities are informed of climate change science and potential risks and impacts.
- 9.3 The Council will contribute to and actively follow a climate adaptation implementation plan which will align with the National Adaptation Plan<sup>10</sup> and Te Tai Tokerau Climate Adaptation Strategy 2022. This plan will describe climate adaptation priorities and targets and list projects to meet these targets.
- 9.4 The Council will work alongside communities assisting in the development of community adaptation plans using Dynamic Adaptive Pathways Planning (DAPP) and other bespoke adaptive planning methodology (See Schedule 6).
- 9.5 The Council will <u>not</u> undertake any action in response to coastal erosion affecting private land except in exceptional circumstances at the Council's sole discretion.

# 10.0 Climate-related decision-making

Climate change considerations are already embedded in some council processes such as designing engineering projects. The Policy requires that climate change is considered in <u>all</u> key council decisions.

### **Policies**

10.1 The Council will develop a policy implementation guide to direct implementation and to provide a decision-making framework that considers climate change adaptation and mitigation to build resilience into all key Council plans, policies, and projects.

# 11.0 Risk management and opportunities

The Council recognises climate change as one of its top organisational risks as it poses significant risks for the Council and the community through:

- environmental impacts (climatic, geographic, public health, social, cultural, economic, and financial)
- transition challenges (compliance, governance, legal, financial, and policy-related).

The Council's current climate change risk position is categorised into four risk themes<sup>5</sup> to enable focus on treatments with clear outcomes and accountability, and to support allocation of resources and management responsibilities.

The Council recognises that in addressing risk there are opportunities to increase:

- **environmental sustainability** (sustainable development, renewable energy, efficient waste management and recycling)
- economic development (local economic development, tourism, and cultural promotion)
- **technological advancements** (technology and innovation, digital inclusion, education, and workforce development)

#### **Policies**

- 11.1 The Council will continually research, expand its understanding, quantify where possible and regularly report to the governing body regarding the four risk themes recorded in the Council's Risk Register and opportunities for transitioning from risk to council and community resilience.
- 11.2 The Council will quantify risks to its assets, and plan for and document these risks, in Asset Management Plans and identify opportunities to transition to resilient infrastructure.
- 11.3 The Council will develop plausible climate change risk and opportunity scenarios for the district and for the Council itself.

### 12.0 Integrated planning

The Council recognises the need to coordinate its response to climate change risks and opportunities.

### **Policies**

12.1 The Council will consider climate change impacts in all types of planning including financial, infrastructure, and spatial planning.

#### Related information

Note that the Proposed District Plan (PDP)<sup>6</sup> is not governed by this Policy, as it is a statutory document. The PDP clearly recognises climate change threats, with four strategic objectives and related policies and rules referencing climate change.

12.2 The Council will include projected climate change related costs in infrastructure maintenance, upgrades, relocation, and renewals plans.

### 13.0 Financial management

The financial implications of both climate change adaptation and mitigation are significant. To maintain a commitment to affordability while also being responsive to climate change, the Council will need to be alert to emerging funding opportunities.

<sup>&</sup>lt;sup>5</sup> Council's climate change risk framework

<sup>&</sup>lt;sup>6</sup> Proposed District Plan

#### **Policies**

- 13.1 The Council will seek, review, and monitor emerging funding opportunities for climate change initiatives.
- 13.2 The Council will model the long-term financial costs and savings of reducing Council's greenhouse gas emissions and implementing adaptation strategies.

### 14.0 Policy Review

- 14.1 The Council will review this climate change policy as required or in response to issues that may arise, at the request of the Council, or in response to changes to legislative or statutory requirements.
- 14.2 The Council will work with the joint council Climate Action Te Tai Tokerau (CATT) to form a regional climate change policy for the approval of the Council, to achieve consistency of application across the region.

### 15.0 Monitoring and Implementation

- 15.1 The Council will ensure that this Policy is supported by an implementation programme supported by an implementation guide that incorporates a decision-making framework, involving the development and implementation of staff training and guidance, supporting documents and wide communication both internally and to the community.
- 15.2 Implementation of this Policy will be supported by a monitoring and evaluation plan, and implementation will be reported on to the Council annually.
- 15.3 The Council will establish a climate action reference group comprised of staff to develop a policy implementation programme and a policy implementation guide to assist staff to incorporate climate change into decision making including roles and responsibilities of staff within the organization.

### 16.0 Changes to Schedules

The schedules in this Policy may be amended at any time by Council resolution.

Schedule 5 (Sources of Evidence) includes technical information which may be amended by Council staff as fresh information becomes available, for example from the Ministry for the Environment.

### Schedule 1 - Climate Change Related Risks

A range of impacts of climate change are projected for Northland by the National Institute of Water and Atmospheric Research (NIWA)<sup>7</sup> including sea level rise, more warmer days, frosts becoming very rare, more droughts, more extreme weather events and more ex-tropical cyclones.

Potential threats of climate change for the Far North include:

- More severe storms
- Slips and floods
- Damage to the transport and infrastructure networks
- Coastal erosion & inundation
- Water shortages/drought
- Increased estuarine sedimentation
- Contamination of soil
- Salination of water sources/aguifers
- Threat of vector diseases
- Threat of new agricultural pests
- Forest mortality
- · More frequent and extensive wildfires
- Higher rates of erosion of soils including highly productive soils
- Increased threats to biodiversity.

These threats pose many risks to the community, including:

- · Displacement of people
- Severance from essential services such as access, power, and telecommunications
- · Public health risks
- Burden of rates for the district as a whole and especially for vulnerable communities
- · Increasing risk of wildfires
- · Agriculture/horticulture will be different, and the economy will change
- Increased civil defence emergencies and risk of disaster.

### For the Council, potential risks include:

- · Damage or loss of infrastructure
- Damage or loss of parks and reserves
- Cost to protect/relocate/adapt infrastructure and assets.
- · Large/long-term financial and legal risks
- Increasing insurance costs and ultimately the potential inability to insure some areas
- · Reputational risks.

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<sup>&</sup>lt;sup>7</sup> Northland Region Climate Change Projections and Implications 2016

### Schedule 2 - Definitions

- Adaptation means actions that can help people or natural systems adjust to the actual or expected impacts of climate change. Actions may moderate harm or exploit beneficial opportunities<sup>8</sup>.
- Carbon sequestration means the practice of removing carbon from the atmosphere and storing it, for
  instance in forests, grasslands and soil.
- **Circular economy –** means economic activity that restores and regenerates natural systems, designed to replace our current 'take–make–dispose' system with a 'make–use–return' economic system.
- Climate change refers to long-term shifts in temperatures and weather patterns; in particular, shifts from pre-industrial times largely due to human activities increasing carbon dioxide and other greenhouse gases in the atmosphere.
- Council means the Far North District Council.
- **District** means the Far North District.
- **Dynamic Adaptive Pathways Planning (DAPP)** the DAPP approach<sup>9</sup> develops a series of actions over time (pathways) based on making decisions as conditions change, before severe damage occurs, and as existing policies and decisions prove no longer fit for purpose.
- **Embodied emissions –** emissions that are required for the extraction, processing, manufacture, and delivery of materials, building processes, and demolition and disposal of materials. Also referred to as lifecycle emissions.
- Emissions greenhouse gases emitted into the air.
- Emissions reduction means reducing greenhouse gas emissions.
- **Greenhouse gas** any gas that has the property of absorbing infrared radiation (net heat energy) emitted from Earth's surface and re-radiating it back to Earth's surface, thus contributing to the greenhouse effect.
- Intergovernmental Panel on Climate Change (IPCC) is an organisation of countries that provides governments at all levels with the scientific information they can use to develop climate policies.
- **Inventory** a formal measure of total greenhouse gas emissions, calculated within a specific time period for an organisation's activities or geographic boundary.
- **Mitigation** (of climate change) means "a human intervention to reduce the sources or enhance the sinks of greenhouse gases" 10
- **Net zero emissions** means "achieving an overall balance between greenhouse gas emissions produced and greenhouse gas emissions taken out of the atmosphere. This means cutting greenhouse gas emissions to as close to zero as possible, with any remaining emissions re-absorbed from the atmosphere, by oceans and forests for instance"<sup>11</sup>
- Offsetting means compensating for an organisation's greenhouse gas emissions by funding emissions savings elsewhere, typically via tradeable rights or certificates.
- **Projected sea level rise –** projections for sea-level rise are based on:
  - four Representative Pathway Concentrations (RCPs) associated with greenhouse gas concentration trajectories adopted in the IPCC Fifth Assessment Report on Climate Change<sup>2</sup> or, where available, the five Shared Socioeconomic Pathways (SSPs) associated with the broad global socioeconomic trends described in the IPCC Sixth Assessment Report<sup>12</sup>

<sup>&</sup>lt;sup>8</sup> IPCC 5th Assessment Report Annex II

<sup>&</sup>lt;sup>9</sup> See Coastal hazards and climate change: Guidance for local government 2017.

<sup>&</sup>lt;sup>10</sup> IPCC 6th Assessment Report WGII

<sup>11</sup> the <u>United Nations Net Zero Coalition</u>

<sup>&</sup>lt;sup>12</sup> IPCC Sixth Assessment Report 2021

- 2. projections of vertical land movement based on data from the NZ Searise: Te Tai Pari O Aotearoa Programme<sup>13</sup>
- **Resilience** The capacity of interconnected social, economic, and ecological systems to cope with a hazardous event, trend or disturbance, responding or reorganising in ways that maintain their essential function, identity and structure. Resilience is a positive attribute when it maintains capacity for adaptation, learning and/or transformation.<sup>14</sup>
- Risk The potential for adverse consequences for human or ecological systems, recognising the diversity of values and objectives associated with such systems. In the context of climate change, risks can arise from potential impacts of climate change as well as human responses to climate change. Relevant adverse consequences include those on lives, livelihoods, health and well-being, economic, social, and cultural assets and investments, infrastructure, services (including ecosystem services), ecosystems and species. In the context of climate change impacts, risks result from dynamic interactions between climate-related hazards with the exposure and vulnerability of the affected human or ecological system to the hazards. Hazards, exposure, and vulnerability may each be subject to uncertainty in terms of magnitude and likelihood of occurrence, and each may change over time and space due to socio-economic changes and human decision-making. In the context of climate change responses, risks result from the potential for such responses not achieving the intended objective(s), or from potential trade-offs with, or negative side-effects on, other societal objectives, such as the Sustainable Development Goals (SDGs). Risks can arise for example from uncertainty in the implementation, effectiveness or outcomes of climate policy, climate-related investments, technology development or adoption, and system transitions. <sup>15</sup>
- **TCFD recommendations** the Taskforce on Climate-Related Financial Disclosures (TCFD)<sup>16</sup> recommendations describe best practice organisational responses to climate change (see Schedule 1).

<sup>&</sup>lt;sup>13</sup> NZ Searise: Te Tai Pari O Aotearoa Programme 2022

<sup>&</sup>lt;sup>14</sup> IPCC AR6 WGII

<sup>15</sup> IPCC AR6 WGII

<sup>&</sup>lt;sup>16</sup> Taskforce on Climate-Related Financial Disclosures

# **Schedule 3 – Legislation and Council Documents**

### Legislation

- Climate Change Response (Zero Carbon) Amendment Act 2019
- Local Government Act 2002
- Waste Minimisation Act 2008
- Resource Management Act 1991
- Natural and Built Environment Bill (draft)
- Spatial Planning Bill (draft)
- Climate Change Adaptation Bill<sup>17</sup>

### Far North District Council policies, strategies, and plans

- Long Term Plan 2021-31 and its associated Infrastructure Strategy and Financial Strategy
- Operational District Plan and Proposed District Plan
- Draft Engineering Standards May 2022
- Integrated Transport Strategy (2021)
- Waste Management and Minimisation Plan 2017-2023
- Climate Change Roadmap (2020)
- Emissions Inventory Report 2020
- Te Tai Tokerau Climate Adaptation Strategy (2022)
- Far North 2100 A District Strategy (2021)
- Risk Management Policy (2019)
- Kaupapa Here Hiringa Here Tomokanga Significance and Engagement Policy (2021)
- Revenue and Financing Policy (2021)
- Sustainable Procurement Policy (2020)

## Northland Regional Council strategies and plans

- Te Tai Tokerau Climate Adaptation Strategy (CATT) (2022)
- Northland Regional Council, Nga Taumata O Te Moana (Climate Change Strategy)
- Northland Regional Council, Te Nahere Roa 2021-2021 (Long Term Plan 2021-2031)

# Ministry for the Environment plans and guidance

- A Guide to Local Climate Change Risk Assessments (2021)
- Emissions Reduction Plan (2022)
- National Adaptation Plan (2022)
- Guidance for organisations requested to provide information under the Climate Change Response (Zero Carbon) Amendment Act 2019 (2020)
- Emissions Reduction Plan 2022 Te hau maahori ki anamata
- National Climate Change Risk Assessment (2020)
- Preparing for climate change A guide for local government in New Zealand (2008)

## Other guidance documents

- NIWA NZ Searise: Te Tai Pari O Aotearoa Programme (2022)
- Department of Conservation New Zealand Coastal Policy Statement (2010)
- National Policy Statement on Housing and Urban Development (2021)

<sup>&</sup>lt;sup>17</sup> The Climate Change Adaptation Bill has not been released. The Environmental Defence Society (EDS) have reported their recommendations for this bill in the document <u>'Current Legislation and Policy Framework for Managed Relocation – Working Paper 2'</u> This can be referred to for further information.

NZ Searise: Te Tai Pari O Aotearoa Programme 2022; New Zealand Coastal Policy Statement 2010; and National Policy Statement on Housing and Urban Development 2021.					
Schedule 4 – TCFD reporting recommendations					
Following is the Taskforce on Climate-Related Financial Disclosures (TCFD) <sup>12</sup> framework for organisational response to climate change and disclosure to the government and other parties:					

### **Recommendations and Supporting Recommended Disclosures**

Strategy	Risk Management	Metrics and Targets
Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.	Disclose how the organization identifies, assesses, and manages climate-related risks.	Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.
Recommended Disclosures	Recommended Disclosures	Recommended Disclosures
<ul> <li>a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.</li> </ul>	a) Describe the organization's processes for identifying and assessing climate-related risks.	<ul> <li>a) Disclose the metrics used by the organization to assess climate- related risks and opportunities in line with its strategy and risk management process.</li> </ul>
b) Describe the impact of climate- related risks and opportunities on the organization's businesses, strategy, and financial planning.	b) Describe the organization's processes for managing climate-related risks.	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.
c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.
	Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.  Recommended Disclosures  a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.  b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.  c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower	Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.  Recommended Disclosures  a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.  b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.  c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower  Disclose how the organization identifies, assesses, and manages climate-related risks.  Recommended Disclosures  a) Describe the organization's processes for identifying and assessing climate-related risks.  b) Describe the organization's processes for managing climate-related risks.  c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk

### Schedule 5 - Sources of evidence

 The Council will follow the scenarios stipulated by the Ministry for the Environment (MfE) relating to projected sea level rise in planning for coastal adaptation.

#### Related information

The latest Ministry for the Environment requirements are listed in the National Adaptation Plan 20222:

"When making or changing policy statements or plans under the RMA, including to give effect to the provisions of the NZ Coastal Policy Statement, councils should use the recommended climate change scenarios outlined below, as a minimum:

- to screen for hazards and risks in coastal areas, use the Shared Socioeconomic Pathway scenario for fossil fuel intensive development (SSP5-8.5) where available, or the Representative Concentration Pathway RCP8.5, to 2130
- for detailed hazard and risk assessments in coastal and non-coastal areas, use both the
  middle-of-the-road scenario (SSP2-4.5) and the fossil fuel intensive development scenario
  (SSP5-8.5) where available, RCP4.5 and RCP8.5, to 2130, for areas at high risk of being
  affected, adding the relevant rate of vertical land movement locally [from the NZ Searise: Te
  Tai Pari O Aotearoa programme 2022<sup>18</sup>]. Where SSP2-4.5 and SSP5-8.5 are not available,
  use RCP4.5 and RCP8.5 to 2130, adding the relevant rate of vertical land movement locally
- for all other climate hazards and risks, use the most recent downscaled climate projections for Aotearoa.

In addition, councils should stress test plans, policies and strategies using a range of scenarios as recommended in the interim guidance and the National Climate Change Risk Assessment 2020<sup>19</sup> Framework, as relevant to the circumstance".

- The Council will use the latest hazard maps produced by Northern Regional Council to assess river flooding and coastal hazards<sup>20</sup>
- The Council will use the latest climate projections from NIWA in its climate change planning.
- The Council will follow the climate-related engineering specifications included in the latest Engineering Standards<sup>21</sup> when planning or permitting any development project or engineering work.

<sup>&</sup>lt;sup>18</sup> NZ Searise: Te Tai Pari O Aotearoa programme 2022

<sup>&</sup>lt;sup>19</sup> National Climate Change Risk Assessment 2020

<sup>&</sup>lt;sup>20</sup> See the NRC Natural Hazards Portal

<sup>&</sup>lt;sup>21</sup> Draft Engineering Standards

# Schedule 6 - Dynamic adaptive pathways planning (DAPP)

The **DAPP** planning process requires considering a range of **adaptation** options, typically at the community level, and identifying what would trigger their application. The resulting plan will focus on developing resilience to key climate impacts including:

- **Environmental impacts** such as coastal erosion and inundation, river flooding and extreme weather events such as storms and droughts
- Economic impacts such as the increased cost of future proofing assets
- **Cultural impacts** such as impacts on sites of cultural significance to Māori including marae, urupā (burial grounds), waahi tapu (sacred sites) and mahinga kai (food gathering sites)
- **Social impacts** such as isolation due to disruption of the transport network.

The diagram below shows the ten-step decision cycle for dynamic adaptive planning recommended in *Coastal hazards and climate change: Guidance for local government 2017*<sup>6</sup>.

