

**BEFORE THE INDEPENDENT HEARINGS PANELS APPOINTED TO HEAR AND MAKE  
RECOMMENDATIONS ON SUBMISSIONS AND FURTHER SUBMISSIONS ON PROPOSED CHANGE 1  
TO THE REGIONAL POLICY STATEMENT FOR THE WELLINGTON REGION**

**UNDER** Schedule 1 of the Resource Management  
Act 1991 (the Act)

**IN THE MATTER OF** Hearing Submissions and Further  
Submissions on Proposed Change 1 to the  
Regional Policy Statement for the  
Wellington Region

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**STATEMENT OF REBUTTAL EVIDENCE OF JEROME GEOFFREY  
WYETH**

**ON BEHALF OF WELLINGTON REGIONAL COUNCIL**

**HEARING STREAM THREE – CLIMATE CHANGE GENERAL**

**22 August 2023**

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## TABLE OF CONTENTS

INTRODUCTION.....	3
QUALIFICATIONS AND EXPERIENCE .....	3
RESPONSES TO EXPERT EVIDENCE .....	3
Chapter 3.1A – Introduction and climate change issues .....	4
Objective CC.1.....	8
Objective CC.2.....	11
Objective CC.3.....	14
Objective CC.7.....	20
Objective CC.8.....	23
Policy CC.8.....	25
Method CC.1 .....	31
Anticipated environmental results .....	31
Definitions.....	32
Appendix 1: Recommended amendments to the Climate Change – General provisions .....	36

## INTRODUCTION

- 1 My full name is Jerome Geoffrey Wyeth. I am a Principal Planning and Policy Consulting at 4Sight Consulting – Part of SLR.
- 2 I have read the respective planning evidence and legal submissions of:
  - 2.1 Dairy New Zealand Limited (DairyNZ).
  - 2.2 Kāinga Ora Homes and Communities (Kāinga Ora).
  - 2.3 Meridian Energy Limited (Meridian).
  - 2.4 Porirua City Council (PCC).
  - 2.5 Peka Peka Farms Limited.
  - 2.6 Rangitāne Tū-Mai-Rā Trust and Rangitāne o Wairarapa (Rangitāne).
  - 2.7 Upper Hutt City Council (UHCC).
  - 2.1 Wairarapa Federated Farmers (WFF).
  - 2.2 Wellington International Airport Limited (WIAL).
  - 2.3 Wellington Water.

## QUALIFICATIONS AND EXPERIENCE

- 3 My qualifications and experience are set out in paragraph 14-22 of my section 42A report for this topic, dated 31 July 2023. I repeat the confirmation given in that report that I have read and agree to comply with the Code of Conduct for Expert Witnesses.

## RESPONSES TO EXPERT EVIDENCE

- 4 This section responds to submitter evidence in relation to the provisions in this topic. The recommended amendments to the Change 1 provisions in my section 42A report are shown in ~~red underlined~~ below and further recommended amendments in this rebuttal evidence are shown in ~~blue underlined~~. These amendments are shown below where applicable and in full in Appendix 1 of this evidence.

### **Chapter 3.1A – Introduction and climate change issues**

- 5 The introduction to Chapter 1A and climate change regionally significant issues are addressed in the evidence of Meridian, PCC, UHCC, Wellington Water and WIAL.

#### Meridian

- 6 Ms Foster disagrees with my section 42A recommendation to reject the additional wording for Issue 1 requested in the original submission from Meridian. Ms Foster notes that the current wording of Issue 1 focuses solely on the reduction of greenhouse gas (GHG) emissions when there is a valid and equally significant and urgent need to replace fossil fuels with renewable energy alternatives and this should also be appropriately recognised in Issue 1. Ms Foster disagrees with my characterisation of the additional text requested by Meridian as setting out *how* the issue needs to be addressed, rather than providing further detail on the issue itself. Ms Foster is of the view that increasing renewable electricity generation capacity is a significant climate change issue in its own right and including this within Issue 1 is better aligned with the objective in the proposed National Policy Statement for Renewable Electricity Generation (NPS-REG) that was recently consulted on.

#### Porirua City Council

- 7 Mr Rachlin remains of the opinion that the introduction text for Chapter 3.1A is too long and that it unnecessarily repeats detail the section 32 evaluation report for Change 1. Mr Rachlin also remains concerned that the introduction for Chapter 3.1A fails to refer to the National Adaptation Plan (NAP) and Emission Reduction Plan (ERP), which are important to reference in the context of achieving an integrated approach to climate change. Mr Rachlin also does not consider it necessary to refer to the climate emergency declared by Greater Wellington Regional Council.
- 8 To address these concerns, Mr Rachlin requests that the introduction text of Chapter 3.1A is deleted and replaced with a much shorter text that centres on an integrated approach to managing climate change which recognises that the Regional Policy Statement (RPS) is just one of many tools available.

#### Upper Hutt City Council

- 9 Ms Rushmere's evidence outlines concerns with Climate Change Issues 1, 3 and 6 in Change 1 as follows:

- 9.1 Ms Rushmere agrees with my position in the section 42A report that Issue 1 is not the appropriate place to recognise funding constraints that limit the ability of Change 1 to fully address climate change. Ms Rushmere considers that funding constraints to respond to climate change are significant enough to warrant a separate, new Issue 7 with recommended wording for this issue provided in Appendix A of her evidence.
- 9.2 Ms Rushmere considers that my section 42A recommended amendments to Issue 3 do not go far enough to address the concerns of UHCC, particularly as there is no evidence in the section 32 evaluation report for Change 1 that traditional hard engineering approaches do not fully consider the impacts on natural systems or that they will inevitably become compromised. Ms Rushmere requests alternative wording to address this issue and her perceived use of overly 'negative' language in Issue 7.
- 9.3 Ms Rushmere is concerned with the perceived assumption in Issue 6 that social inertia and lack of understanding are barriers to addressing climate change. Ms Rushmere requests amendments to reframe Issue 6 more positively and make it more concise.

#### Wellington Water

- 10 Ms Horrox is of the view that the section 42A recommended amendments to Issue 3 are an improvement from the notified version. Ms Horrox concurs that water security is adequately highlighted in Issue 3 and an additional Issue (Issue 7) on water security is no longer required as requested in the original submission of Wellington Water.

#### WIAL

- 11 Ms Hunter considers that it is important to reference national climate change legislation and policy in the introduction for Chapter 3.1A to recognise that the RPS is not going to be the driving force of transformation in the climate change space. In the context of Wellington Airport, Ms Hunter references the work under the ERP to form a new public private partnership, known as Sustainable Aviation Aotearoa, to focus on decarbonising aviation within New Zealand.
- 12 Ms Hunter considers that there is a risk that regional policy that does not sufficiently recognise this national context will get out of step with national climate change

imperatives, which are constantly evolving. To address these concerns, Ms Hunter requests that:

12.1 The issue statements are broadened to reference national climate change legislation, the ERP and NAP.

12.2 The aviation sector is not subject to the climate change provisions in the RPS. Ms Hunter suggests an “avoidance of doubt” clause in the introduction/issues section of Chapter 3.1A to provide for this relief. This relief is an alternative to the more specific relief to the climate change provisions from WIAL set out below.

13 In requesting this relief, Ms Hunter notes that emissions from international aviation and shipping are not currently included in the Climate Change Response Act 2002 (CCRA) net-zero target but are dealt with separately as part of New Zealand’s broader international commitments. Ms Hunter also notes that the CCRA requires the Climate Change Commission to advise by the end of 2024 on whether GHG emissions from international aviation should be included in the net-zero target.

#### Analysis and recommendations

14 In response to the evidence of Ms Foster, I note that the ‘key areas of action’ section in the introduction to Chapter 3.1A states that reducing GHG emissions “*includes transitioning as rapidly as possible from fossil fuels to renewable energy*”. In my section 42A report (paragraph 115) I do not recommend that Issue 1 include a reference to increasing renewable energy generation on this basis that this is **how** the issue is to be addressed. However, after further consideration, I agree that increasing renewable energy generation is an issue in its own right, as the development of renewable energy generation can often face significant consenting barriers. I also consider it important to recognise the significant increase in renewable energy generation needed to meet national and regional GHG emission reduction targets. I therefore recommend additional wording in Issue 1 consistent with the relief sought by Meridian, which is set out below and in Appendix 1 of this evidence.

[Development of the renewable energy resources in the Region will be necessary to assist the transition from fossil fuel dependency and achieve the significant reductions in greenhouse gas emissions needed from these sources.](#)

15 I do not agree with the replacement introduction text to Chapter 3.1A proposed by Mr Rachlin. While I acknowledge that Chapter 3.1A has a detailed and long introduction text, climate change is a complex topic with multiple drivers and challenges that warrants a more detailed explanation in my opinion. I also consider that his recommended text would remove important contextual factors for climate change in the Wellington Region which are useful to help explain the rationale for the climate change provisions that follow.

16 However, after further consideration of submitter evidence, I do agree with Mr Rachlin and Ms Hunter that it would be beneficial for the introduction text to Chapter 3.1A to better reference the national legislative and policy context for climate change and the role of the RPS and planning system to reduce GHG emissions within this broader context. While statements to this effect are included in the section 32 evaluation report and section 42A report for the topic, I agree there would be benefit in this context being referenced within the RPS. I therefore recommend a new subsection in the introduction to Chapter 3.1A *'The role of the resource management system in the climate change response'* with the following text:

[The resource management system plays a key role in helping to reduce greenhouse gas emissions. This section of the Regional Policy Statement sets out issues, objectives, policies and methods to help achieve a significant reduction in greenhouse gas emissions and improve the resilience of the Wellington Region to the effects of climate change. It is intended to complement the Climate Change Response Act 2002 and the range of actions and initiatives in Aotearoa New Zealand's Emission Reductions Plan and National Adaptation Plan prepared under that Act. This recognises that the achievement of greenhouse gas emission reduction targets, including those in Objective CC.3 of this statement, requires a range of actions, initiatives and financing tools that sit both within and outside of the resource management system.](#)

17 I do not agree with Ms Rushmere that an additional climate change issue relating to funding requirements is required. In my opinion, the requested issue statement from Ms Rushmore is more describing what needs to happen to respond to climate change, rather than an issue in itself. The recommended text above also recognises the role of the RPS in responding to climate change alongside other actions, initiatives, and **financial tools** which I consider to be consistent with the relief sought by Ms Rushmere. In response to the other

requested amendments from Ms Rushmere to the climate change regionally significant issues:

17.1 I recommend that Issue 2 is amended to state hard engineered protection works “are likely to” become compromised and uneconomic to sustain rather than Ms Rushmore’s suggested “may”. This wording is appropriate in my view as it is referring to works that “have not been designed to withstand impacts of climate change”.

17.2 I do not agree with the recommended amendments to Issue 6 as they undermine the intent and focus of the issue in my view. However, I do recommend a minor amendment to also refer to “resourcing” (which includes funding) as one of the barriers to people and businesses making changes to transition to a low-emissions and climate-resilient future.

18 I agree with Ms Hunter that it would be beneficial to clarify that the general climate change provisions in Change 1 do not apply to GHG emissions from aircraft, consistent with other Change 1 provisions relating to transport emissions. However, I consider that the intent can be achieved in a clearer and more concise way by simply stating that, for the avoidance of doubt: *“The climate change objectives, policies and methods in this Chapter do not apply to greenhouse gas emissions from aircraft”*. I recommend that this statement is included at the end of the new recommended section above “The role of the resource management system in the climate change response” in the introduction of Chapter 3.1A as set out in Appendix 1 of this evidence.

### **Objective CC.1**

19 Objective CC.1 is addressed in the evidence of DairyNZ, Meridian, PCC, WFF and WIAL. In addition, Ms Heppelthwaite on behalf of Waka Kotahi supports the section 42A recommended amendments to Objective CC.1.

### Dairy NZ

20 Ms Hunter raises concerns that removing the 2050 timeframe from Objective CC.1 implies that it is an outcome to be achieved with immediate effect. In her opinion, this overlooks the need for there to be a transition period to achieving a low-emission and climate resilient region. As such, Ms Hunter recommends that the start of Objective CC.1 be



amended as follows: *'The Wellington Region is able to sustainably transition to a low-emission and climate-resilient region.'*

#### Meridian

21 Ms Foster supports my section 42A recommended amendments to Objective CC.1, particularly clause (c) relating to the *"planning and delivery of infrastructure"*. However, Ms Foster is concerned about using the term *"infrastructure"* in this clause as her reading of the infrastructure definition is that it excludes renewable electricity generation for supply to the national grid. As such, she recommends the insertion of the words *"including regionally significant infrastructure)"* at the end of clause (c) in Objective CC.1 to resolve this anomaly and capture both renewable electricity generation and transmission.

#### Porirua City Council

22 Mr Rachlin is of the opinion that my section 42A recommended amendments to Objective CC.1 do not address the key issues raised in the original submission from PCC. In particular, Mr Rachlin considers that Objective CC.1 is not achievable within the scope of either the RPS or the RMA and that the objective should only focus on outcomes sought rather than actions to achieve those outcomes (i.e. clauses (a) to (c) of the objective). Mr Rachlin also considers that there is an inherent conflict between Objective CC.1 and Objective CC.3, as the former requires a low-emissions region and the latter requires a zero-emissions region by 2050. Mr Rachlin also has concerns about the term *"climate-resilient region"* on the basis that it is unclear what a climate resilient region is, and he questions whether a region can ever fully become climate-resilient.

23 Based on these concerns, Mr Rachlin recommends significant changes to the wording of Objective CC.1 as follows: *"The management of natural and physical resources contribute to increased climate-resilience in the Wellington region."* Mr Rachlin also recommends an amended definition of climate-resilience, which is addressed in the rebuttal evidence for the Climate Resilience and Nature-Based Solutions topic by Ms Guest.

#### WFF

24 Ms McGruddy states in her hearing statement for WFF that the amendments recommended in Hearing Stream 2 already provide the same intent as Objective CC.1. My understanding from this statement is that Ms McGruddy considers that Objective CC.1 is unnecessary.

## WIAL

25 Ms Hunter supports the intent of Objective CC.1 and my section 42A recommended amendment to clause (c) to refer to “*planning and delivery of infrastructure*”. However, Ms Hunter raises the same concerns with Objective CC.1 as for DairyNZ above. Namely, Ms Hunter is concerned with the recommendation to delete the reference to the 2050 timeframe in Objective CC.1 on the basis that it implies that the immediate achievement of the outcome is required. Ms Hunter considers that this is going further than recently gazetted national direction for GHG emissions from industrial process heat, which acknowledges a transition period until the objective/outcome is achieved<sup>1</sup>. To address this concern, Ms Hunter recommends that Objective CC.1 is amended in the same way as DairyNZ above.

## Analysis and recommendations

26 In relation to the evidence of Ms Hunter seeking similar relief for DairyNZ and WIAL, I acknowledge that removing the timeframe could be interpreted as implying a low-emissions and climate-resilient region is an outcome that needs to be achieved immediately. However, I do not consider that this presents any interpretation or implementation issues as suggested by Ms Hunter. Objectives generally express outcomes that will take time to achieve and it is not always practicable for a specific timeframe to be set to achieve that outcome (acknowledging ‘timebound’ is one of the ‘SMART’ principles for objectives). My concern with the addition of “sustainably transitions to” in Objective CC.1 is that this could weaken the intent of the objective and is too open-ended. My preference is therefore to retain the wording Objective CC.1 in my section 42A report for this topic noting that elements of the objective (e.g. climate change mitigation and adaptation being integral part of sustainable air, land, freshwater and coastal management) will be achieved before other elements of the objective (e.g. achieving a low-emissions region).

27 Ms Foster has highlighted a potential issue with the reference to “infrastructure” in Objective CC.1(c) which is a term defined in the RPS as having the same meaning as in the RMA. Ms Foster considers that the reference to clause (d)<sup>2</sup> in the definition of

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<sup>1</sup> The National Policy Statement for Greenhouse Gas Emissions from Industrial Process Heat 2023 is referenced, which has an objective of *reducing emissions of greenhouse gases by managing the discharges of air of greenhouse gases, from the production of industrial process heat...*

<sup>2</sup> Clause (d) states infrastructure includes “*Facilities for the generation of electricity, lines used or intended to*

infrastructure does not capture renewable electricity supply to the National Grid, which is clearly included in the definition of regionally significant infrastructure. I do not interpret this issue in the same way. My interpretation of clause (d) in the definition of infrastructure in the RMA/RPS is that it captures any facility used for electricity generation (except where it is generated for personal use). My understanding is that this definition also captures both transmission and distribution lines through the general reference to “*lines used or intended to be used to convey electricity*”. I therefore do not consider that clause (c) in Objective CC.3 needs to refer to “*infrastructure, including regionally significant infrastructure*” as requested by Ms Foster but equally I am not opposed to that amendment for added clarity.

28 I do not support the replacement Objective CC.1 recommended by Mr Rachlin as that would significantly limit the scope and effectiveness of the objective in my opinion. I have already responded to a number of his concerns in my section 42A report for this topic (paragraph 142 and 150 in particular) and I do not repeat those responses here. I do not agree that there is an inherent conflict between Objective CC.1 and Objective CC.3 – the reasons are also outlined in my section 42 for this topic (paragraph 144). In summary, I see the two objectives as expressing two complementary, but distinct, outcomes – Objective CC.1 is more focused on articulating the future state of the Wellington Region in relation to climate change whereas Objective CC.3 sets a more specific GHG emissions reduction targets for the region.

29 Ms McGruddy provides no clear reasons as to why she considers that Objective CC.1 is sufficiently addressed in Hearing Stream 2 (which includes one integrated management objective) and accordingly this does not warrant a specific analysis in response in my opinion.

## **Objective CC.2**

30 Objective CC.2 is addressed in the evidence of Peka Peka Farms Limited, PCC, UHCC and WFF.

### Peka Peka Farms Limited

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*be used to convey electricity, and support structures for lines used or intended to be used to convey electricity, excluding facilities, lines, and support structures if a person:*

*(i) uses them in connection with the generation of electricity for the person’s use; and*  
*(ii) does not use them to generate any electricity for supply to any other person”*

31 Mr Lewandowski reiterates the submission point of Peka Peka Farm Limited requesting that Objective CC.2 be deleted. Mr Lewandowski is of the opinion that some of the subjectivity in Objective CC.2 is removed through my section 42A recommendation to delete the reference to “*social, cultural and economic wellbeing*”. However, in his opinion, the recommendation to replace “*shared fairly*” with “*equitable*” does not adequately address how Objective CC.2 can be achieved through RMA planning documents.

#### Porirua City Council

32 Mr Rachlin reiterates the original submission point of PCC requesting that Objective CC.2 be deleted on the basis that:

32.1 It is not achievable through RMA planning documents.

32.2 It sits outside the functions of regional councils and territorial authorities.

32.3 It is not clear as to how costs and benefits should be shared fairly and between who.

32.4 The equitable sharing of benefits and costs is not required by the purpose of the RMA.

32.5 My section 42A recommended amendments to Objective CC.2 do not resolve these concerns.

#### Upper Hutt City Council

33 The section 42A recommended amendments to Objective CC.2 are not sufficient to address Ms Rushmere’s concerns with the objective. Ms Rushmere supports the intent of Objective CC.2 to share costs and benefits equally but considers that it is unclear what this means in practice and how it will be achieved. Ms Rushmere considers that sufficient direction on equity is provided in other documents such as the NAP and recommends that Objective CC.2 be deleted.

#### WFF

34 Ms McGruddy states that Objective CC.2 should be tested against the recommendations in Hearing Stream 2 to delete Policy IM.2 (Equity and Inclusiveness). Ms McGruddy also states that “equitable transition” is included in Climate Change Commission advice to Government, but WFF is not clear that this has the same meaning as intended in Objective CC.2.

## Analysis and recommendations

- 35 I consider that the primary concerns and relief sought by Mr Lewandowski, Mr Rachlin and Ms Rushmere in relation to Objective CC.2 are adequately responded to in my section 42A report (paragraph 162-170) and that analysis is not repeated here. I am still of the position that Objective CC.2 serves a resource management purpose, can be achieved under the RMA, and should be retained.
- 36 I acknowledge that the purpose of the RMA does not require equitable sharing of benefits and costs as stated by Mr Rachlin. However, in my view, this is an implicit consideration in section 32 evaluations when assessing the environmental, economic, social and cultural benefits and costs of proposed provisions on communities and different parts of the communities. In this respect, I note the section 32 evaluation guidance from the Ministry for the Environment recommends “*Level of equity and fair distribution of impacts*” as a criterion to assess the appropriateness of proposed provisions in section 32 evaluation. This guidance also includes a section on “*considering equity and distributional issues*”<sup>3</sup>. Therefore, in my opinion, there is no issues with using the concept of equity in the context of Objective CC.3 and this will help ensure it is an explicit consideration in the section 32 evaluations of plan changes that give effect to the climate change provisions in Change 1.
- 37 I acknowledge that I recommend that Policy IM.2 (Equity and inclusiveness) be deleted in Hearing Stream 2, and this may appear inconsistent with my recommendation to refer to equity/equitable in Objective CC.2. However, in my opinion, the context is different:
- 37.1 Objective CC.2 is specific to the costs and benefits of transitioning to a low-emission and climate-resilient region where there is a high-risk of inequitable outcomes for different sectors and parts of the community.
- 37.2 Objective CC.2 is specific to climate change where the concept of an equitable transition is well understood and supported by national policy. I consider that the concept of an equitable transition is equally important in a regional context as it is in a national context (as referenced in the ERP).
- 37.3 Policy IM.2 was broader in scope and had different interpretation and implementation issues than Objective CC.2.

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<sup>3</sup> Refer: [guide-to-section-32-of-resource-managemnt-amendment-act-1991.pdf \(environment.govt.nz\)](https://www.environment.govt.nz/government/policies/guide-to-section-32-of-resource-management-amendment-act-1991.pdf)

### Objective CC.3

38 Objective CC.3 is addressed in the evidence of DairyNZ, Meridian, PPFL, PCC, UHCC, WFF and WIAL.

#### DairyNZ

39 Ms Hunter raises concern that Objective CC.3 is not sufficiently nuanced or adaptable enough to be able to meet the individual needs of sectors or to keep up with national imperatives and responses to climate change. More specifically, Ms Hunter questions the ability of regional policy making to be able to 'keep pace' with New Zealand's evolving national response to climate change.

40 Ms Hunter also raises concerns that it is unclear:

40.1 How Objective CC.3 will be able to be achieved through regional and district plans.

40.2 How an individual activity will demonstrate compliance with Objective CC.3 through consenting processes.

40.3 Whether the Objective CC.3 targets will be applied or assessed at a sector-scale or at a region-wide scale.

41 Ms Hunter requests that Objective CC.3 be deleted, or alternatively recommends that Objective CC.3 be amended to focus on achieving consistency with national climate change legislation and policy, as follows: *"To support New Zealand's pathway to net zero emissions of all greenhouse gases (except biogenic methane) and to reduce emissions of biogenic methane to 24 – 47% below 2017 levels by 2050, align Wellington's regional responses to national legislation and expectations regarding emissions budgeting and outcomes."*

#### Meridian

42 Ms Foster states she understands my recommendation in the section 42A report to not amend Objective CC.3 to refer to the development of renewable energy resources, so that the objective remains focused on GHG emission reductions.

43 Ms Foster confirms that, provided other provisions are amended to actively promote and enable additional renewable electricity generation capacity (as addressed in the Climate

Change – Energy, Industry and Waste topic), Meridian does not seek any further changes to Objective CC.3.

#### Peka Peka Farms Limited

44 Mr Lewandowski reiterates concerns from Peka Peka Farms Limited about whether RMA plans are the most appropriate way to achieve Objective CC.3. Mr Lewandowski is of the opinion that the alternative relief sought by Kāinga Ora and the explanatory note sought by Hutt City Council for Objective CC.3 noted at paragraph 184 of my section 42A report for this topic are the preferred way of re-framing the objective. Notwithstanding the opposition of Peka Peka Farms Limited to Objective CC.3 as notified, Mr Lewandowski supports my section 42A recommended amendment to clause (b) to add the words *“contribute to.”*

#### Porirua City Council

45 Mr Rachlin has similar concerns with Objective CC.3 as he does with Objective CC.1, namely that the RPS is only one mechanism to achieve GHG emission reductions and that some of the matters covered in Objective CC.3 are not within the scope of a RPS. Mr Rachlin is also of the opinion that Objective CC.3 should be framed in a way that recognises the role of the RMA alongside other regulatory and legislative tools to achieve climate change outcomes and that it should be simplified.

46 To achieve this, Mr Rachlin recommends a more concise version of Objective CC.3 that focuses on two key outcomes – to contribute to a 50 percent reduction in GHG emissions from 2019 levels by 2030 and zero net-emissions by 2050 with the following wording: *“Management of natural and physical resources contribute to a 50% reduction in net emissions from 2019 levels by 2030 and net-zero emissions by 2050 in the Wellington region”.*

47 Mr Rachlin is opposed to any further breakdown of GHG emission reduction targets by sector in Objective CC.3 on the basis the achievement of those targets will be based on a broader range of tools that sit outside the RMA and are more appropriately located in the regional emission reduction plan being prepared by the Wellington Regional Leadership Committee.

Upper Hutt City Council

48 Ms Rushmere is of the opinion that my section 42A recommended amendments to Objective CC.3 have not addressed the core concern raised in the UHCC submission. That key concern is that Objective CC.3 does not provide sufficient clarity on what roles and functions local authorities have in achieving the specified GHG emission reduction targets within the boundaries of their statutory functions under the RMA. Ms Rushmere is of the opinion that Objective CC.3 should be redrafted to reflect what is achievable within an RMA context, which involves removal of specific sector targets and a simplification of the objective to focus on supporting the global goal of limiting warming to 1.5 degrees Celsius and contributing to a 50 percent reduction in GHG emissions from 2019 levels by 2030 and zero net-emissions by 2050.

WFF

49 WFF raise significant concerns in the planning evidence of Mr Matich and the hearing statement of Ms McGruddy with the climate change provisions in Change 1, and in particular, the approach to agricultural GHG emissions. This section addresses points specific to Objective CC.3, whereas the evidence from WFF specific to agricultural emissions is addressed in my rebuttal evidence for the Climate Change – Agricultural Emissions topic.

50 Mr Matich considers that Objective CC.3 presents significant flaws from a resource management and planning perspective. Specific concerns raised by Mr Matich with Objective CC.3 include:

50.1 The policies and methods in Table 1A indicate that Objective CC.3 will be implemented on a case-by-case basis.

50.2 Objective CC.3 aggregates all GHG emissions within the region and it is uncertain who needs to do what to “contribute” to achieving the overall regional target of 50 percent reduction from 2019 levels.

50.3 Objective CC.3 is being advanced ahead of a regional emissions reduction plan being developed, which is likely to create significant uncertainty for sectors implicitly targeted by the objective. More specifically Mr Matich is concerned *“Objective CC.3 and its associated implementation methods has a clear implication that consent authorities and applicants will have to undertake*



*emission reduction assessments, regardless of when this intended 'regional emission reduction plan' is produced."*

51 Mr Matich also raises a large number of concerns about the implementation of Objective CC.3, including:

51.1 It may result in any activity being subject to an assessment of its contribution to regional GHG emissions through individual resource consent applications.

51.2 There will be significant complexities and challenges assessing cumulative effects from individual activities.

51.3 Case-by-case assessment of resource consent applications presents a risk of "patchy" analysis and inconsistent application of policy.

52 The hearing statement of Ms McGruddy similarly raises significant concerns with Objective CC.3, stating that WFF cannot support the proposed approach for methane targets and cannot support regulating farmers through RMA consents to achieve those targets. The concerns of Ms McGruddy with Objective CC.3 are consistent with those raised by Mr Matich, including:

52.1 There is an absence of cost benefit analysis for either "proposing binding statutory targets" or deferring the climate change provisions until the full review of the RPS scheduled for 2024.

52.2 The CO<sub>2</sub> targets are consistent with the CCRA, but the methane targets are not. These national targets are also subject to periodic review.

52.3 Change 1 proposes regional GHG targets notwithstanding that most of the levers for achieving them sit outside the RMA.

52.1 The apparent gap between the ambition of the regional targets and the execution through RMA instruments has not been explained and the largest unexplained gaps are the agriculture and forestry sectors.

52.2 The methodology to estimate net GHG emissions is unclear.

53 Given these concerns, Mr Matich and Ms McGruddy recommend that Objective CC.3 is deleted. Should the climate change provisions in Change 1 be retained, both Mr Matich and Ms McGruddy request that Objective CC.3 is amended to remove agriculture.

## WIAL

- 54 Mr Hunter raises several issues and concerns with Objective CC.3 similar to those she raised for DairyNZ above. Those concerns include:
- 54.1 It is unclear how Objective CC.3 will be achieved through lower order regional and district plans.
  - 54.2 It is unclear how an individual activity will demonstrate compliance with Objective CC.3 through consenting processes and what might be expected of an applicant to demonstrate compliance with Objective CC.3. More specifically, Ms Hunter questions whether individual activities will need to demonstrate a reduction in GHG emissions or whether this is a target that will be assessed on a region-wide scale with "overs and unders" still expected across various activities and sectors.
  - 54.3 It is unclear how Objective CC.3 fits within the ERP framework.
- 55 Ms Hunter emphasises that the national climate change policy framework is complex and requires consideration of numerous present and future factors. As such, the pathway is not expected to be linear and there needs to be flexibility to respond to a range of uncertainties. To recognise this complex context, Ms Hunter supports the relief sought in the WIAL submission to amend Objective CC.3 as follows: *"To support New Zealand's pathway to net zero carbon emissions by 2050, align Wellington's regional responses to national legislation and expectations regarding emissions budgeting and outcomes"*.

## Analysis and recommendations

- 56 Objective CC.3 has been a focus of submissions and submitter evidence with some strong opposition, particularly from the primary sector. A lot of the concerns raised relate to some perceptions or uncertainty about how Objective CC.3 will be implemented in practice and how the targets can be achieved in a resource management context. I addressed these concerns in my section 42A report (paragraphs 200-202 in particular) where I emphasise the importance of the "contribute to" wording in Objective CC.3 and specifically that *"The intent of this change is to make it clear that the Change 1 provisions can only contribute to the Objective CC.3 targets, as achieving the targets will require a range of national, regional and local interventions and initiatives"*.

57 However, it is clear from submitter evidence that there are still some different interpretations on how Objective CC.3 is intended to be implemented alongside other national and regional climate change initiatives and how it will be assessed through planning and consenting processes. In response, I recommend additional text to the introduction of Chapter 3.1A outlined above *'the role of the resource management system in the climate change'* to make it clear the RPS climate change provisions, including Objective CC.3, sit within this broader national climate change context.

58 The intent of Objective CC.3 is not to require case-by-case assessments of how all individual activities contribute to the targets and/or require allocation of GHG emissions between different sectors and activities which is reflected in the "contribute to" wording. However, to address submitter concerns and "for the avoidance of doubt" I recommend that the introduction of Chapter 3.1A<sup>4</sup> includes the following statement:

For the avoidance of doubt:

Objective CC.3 seeks to ensure the management, use and protection of natural and physical resources in the Wellington Region contribute to the 2030 and 2050 regional greenhouse gas emission targets – it is not a limit nor intended as an allocation regime between different sectors.

59 In terms of the actual amendments to Objective CC.3, I acknowledge the concerns of some submitters that Objective CC.3 is not adaptable enough to respond to the dynamic and evolving nature of the climate change response, particularly sector specific targets. I also recognise the limitations of incorporating the transport targets from the 2021 Wellington Regional Land Transport Plan into Objective CC.3 given these will be regularly reviewed and updated under the Land Transport Management Act 2003. I therefore recommend that the transport targets are removed from Objective CC.3 and the objective is simplified to focus on two outcomes, contributing to:

59.1 A 50% reduction in greenhouse gas emissions in the region by 2030; and

59.2 The achievement of a net-zero greenhouse gas emissions by 2050.

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<sup>4</sup> It would be more visible for such as statement to be an explanation of Objective CC.3, rather than introduction. However, the RPS objectives do not include explanations so this would create some inconsistency and potential confusion. I do not have a strong view on where this statement is best located.

60 My recommended amendments to Objective CC.3 are shown below and set out in Appendix 1 of this evidence:

To support the global goal of limiting warming to 1.5 degrees Celsius and New Zealand's greenhouse gas emissions reduction targets, net greenhouse gas emissions from transport, agriculture, stationary energy, waste, and industry in the Wellington Region are reduced:

(a) By 2030, to contribute to a 50 percent reduction in greenhouse gas emissions from 2019 levels by 2030, including a:

(i) 35 percent reduction from 2018 levels in land transport-generated greenhouse gas emissions,

(ii) 40 percent increase in active travel and public transport mode share from 2018 levels, and

(iii) 60 percent reduction in public transport emissions, from 2018 levels, and

(b) By 2050, to contribute to achieving net-zero greenhouse gas emissions by 2050.

#### Section 32AA evaluation

61 I consider that my recommended amendments to Objective CC.3 are the most appropriate way to achieve the purpose of the RMA in accordance with section 32AA of the RMA. My recommended amendments retain the intent of Objective CCC.3 to provide clear direction on the significant reductions in GHG emissions needed to respond to climate change, while responding to concerns in submissions about implementation and the inclusion of sector specific targets in Objective CC.3. The retention of the core targets in Objective CC.3 (contribute to a 50% reduction in net GHG emissions by 2030 and contribute to net-zero emissions by 2050) also means that, in my opinion, the original section 32 evaluation and the section 32AA further evaluation in my section 42A report (paragraph 213) are still valid for Objective CC.3.

#### **Objective CC.7**

62 Objective CC.7 is addressed in the evidence of Meridian, PekaPeka Farms Limited, PCC, UHCC and WIAL.

#### Meridian

63 Ms Foster disagrees with my section 42A recommendations to not amend Objective CC.7 to state that people and businesses need to understand *“the changes that need to be made to respond to the challenges of climate change”* as requested in the submission of Meridian on the basis that this is unnecessary.

64 Ms Foster considers that my proposed amendments do not address Meridian’s concerns in part (as stated in my section 42A report) and that the insertion of additional wording above is a better response to achieve the relief sought.

Peka Peka Farms Limited

65 Mr Lewandowski considers that the recommended amendments to Objective CC.6 reduce the rationale and benefits of merging Objectives CC.6, CC.7 and CC.8, which was requested in the original submission of Peka Peka Farms Limited. Due to the section 42A recommended amendments to Objective CC.6, Mr Lewandowski is now of the opinion that Objective CC.6 should not be further amended to include Objectives CC.7 and CC.8. Nevertheless, Mr Lewandowski considers that Objective CC.7 as drafted is not achievable through an RMA plan and should be deleted.

Porirua City Council

66 Mr Rachlin supports the intent of Objective CC.7, but considers that my section 42A amendments to Objective CC.7 do not resolve the concerns raised in the original submission from PCC, namely that:

66.1 Increasing understanding of climate change effects is not an outcome.

66.2 If it is an outcome, it is unclear how this will be implemented or measured or given effect to in regional and district plans.

66.3 The education of people about climate change effects is best addressed outside of RMA plans.

67 Further, Mr Rachlin considers that Objective CC.7 is unnecessary as the implementing policies and methods (Policies CC.16 and CC.17 and Methods CC.1 and CC.8) already give effect to Objective CC.1, Objective CC.3, and Objective CC.8. Accordingly, Mr Rachlin requests that Objective CC.7 be deleted.

Upper Hut City Council

68 Ms Rushmere is of the opinion that my section 42A recommended amendments to Objective CC.7 need to go further to address the concerns raised in the UHCC submission, that is, clearer messaging is required on what climate change means for the region. In particular, Ms Rushmere considers that Objective CC.7 needs to be reframed to focus on

informing people and businesses about the current and future impacts of climate change and how they can be supported in responding to those impacts.

#### WIAL

69 Ms Hunter considers that my section 42A recommended amendments to Objective CC.7 do not sufficiently address the relief sought by WIAL. Ms Hunter considers that further amendments to Objective CC.7 are required to properly recognise and provide for activities, such as infrastructure, that will play an essential role in building resilience to climate change and helping communities adapt to climate change. To achieve this, Ms Hunter recommends that Objective CC.7 is amended as follows: *“People and businesses understand the current and future effects of climate change and how this may impact them and have an ability to implement ~~are actively involved~~ in appropriate climate change mitigation and climate change adaptation responses”*.

#### Analysis and recommendations

70 In my section 42A report (paragraphs 223-230) I address a number of the concerns discussed above from Mr Lewandowski and Mr Rachlin relating to Objective CC.7, including why it serves a resource management purpose, how it can be measured, and how it can be implemented through non-regulatory methods outside of regional and district plans (in particular proposed Method CC.1). No further commentary on these points is warranted in this evidence in my opinion.

71 I recommend a minor amendment to Objective CC.7 to refer to an understanding of **how** to respond to the challenges of climate change as set out below and in Appendix 1 of this evidence.

People and businesses understand ~~what the current and predicted future effects of climate change, and how these may impact them, means for their future~~ how to respond to the challenges of climate change, and are actively involved in ~~planning and implementing~~ appropriate mitigation and adaptation responses.

72 In my view, this change captures the essence of the requested amendments in submitter evidence above so that Objective CC.3 incorporates all of the following interrelated outcomes for businesses and communities to:

72.1 Firstly, understand the effects of climate change.

72.2 Understand how those effects might impact them.

72.3 Understand how to respond to the challenges of climate change.

72.4 Be actively involved in appropriate mitigation and adaptation responses.

73 It is the last part of Objective CC.7 (i.e. **active involvement**) that is most important in my opinion, but I appreciate that an improved understanding of climate change is generally a necessary precursor to that active involvement. For these reasons, I also prefer the use of “active involvement” rather than “have the ability to implement” as requested by Ms Hunter as the latter does not necessarily equate to any action on the ground in my view.

#### Section 32AA evaluation

74 In addition to my analysis relating to Objective CC.7 above, I consider that my recommended amendments are also the most appropriate way to achieve the purpose of the RMA in accordance with section 32AA of the RMA. The changes I am recommending are minor in nature to include an explicit reference to understanding how to respond to the challenges of climate change. The intent of Objective CC.7 is retained and it continues to cover the interrelated outcomes listed above to improve understanding of impacts, effects and challenges of responding to climate change in order to businesses and communities to be actively involved in appropriate mitigation and adaptation responses.. As such, I also consider that my section 32AA further evaluation in my section 42A report for this topic (paragraph 231) is also still valid for this objective.

#### **Objective CC.8**

75 Objective CC.8 is addressed in the evidence of Peka Peka Farms Limited, PCC, Rangitāne, WIAL and WFF. In addition, Ms Woodbridge on behalf of Kāinga Ora and Ms Rushmere on behalf of UHCC support my section 42A recommended amendments to Objective CC.8.

#### Peka Peka Farm Limited

76 Mr Lewandowski makes the same comment for Objective CC.8 as for Objective CC.7, namely that the objective as drafted is not achievable through an RMA plan and should be deleted.

## Porirua City Council

77 Mr Rachlin supports my recommended changes to Objective CC.8, except that he considers a definition of ‘climate-resilience’<sup>5</sup> is necessary to provide greater certainty on what Objective CC.8 is trying to achieve. As noted above, that definition is addressed in the rebuttal evidence for the Nature-Based Solutions and Climate-Resilience topic by Ms Guest.

## Rangitāne

78 Ms Burns disagrees in part with my section 42A recommendations in relation to Objective CC.8. Ms Burns agrees that flexibility in allowing mana whenua/tangata whenua to decide how to best empower their own communities is appropriate and acknowledges that detailed wording in objectives and policies can lead to an excessively lengthy policy document.

79 However, Ms Burns is also concerned that the use of the term ‘communities’ at the end of Objective CC.8 leaves it open as to whether this term extends to natural elements and relationships that are integral to the holistic individual and community identity Māori have. To address this concern, Ms Burns considers that explicit references to include significant cultural sites and taonga species is necessary to interpret and implement Objective CC.8.

80 Ms Burns considered the option of amending Objective CC.8 to give effect to the relief sought in the Rangitāne submission, i.e. how the term “communities” is interpreted and applied. However, Ms Burns considers that the relief sought would be more appropriately addressed through an additional policy to achieve Objective CC.8. The additional policy requested by Ms Burns (*Integration of Te Ao Māori and mātauranga for Climate Change Mitigation, Adaptation and Natural Hazard Management*) is set out in Appendix A of her evidence.

## WFF

81 Ms McGruddy recommends that Objective CC.8 be amended to expand the “empowering” intent to include business, farming and the community and/or that a new objective is added to the RPS as follows “*Commercial leadership in climate change solutions is enabled and empowered*”.

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<sup>5</sup> Mr Rachlin provided a suggested definition for ‘climate-resilience’ as part of his evidence on the Climate Resilience and Nature Based Solutions topic.



### Analysis and recommendations

- 82 My section 42A report for this topic (paragraphs 241-248) outline why I consider that Objective CC.8 serves an RMA purpose and how it can be achieved. No further commentary on these points is warranted in this evidence in my opinion.
- 83 I acknowledge the concerns of Ms Burns that the use of “communities” in Objective CC.8 could be interpreted in a narrower way than intended, that is, in terms of people but not the wider environment that mana whenua/tangata whenua are intrinsically connected to. However, I do not agree with the proposed policy requested by Ms Burns to address this issue.
- 84 In my opinion, the relief sought by Rangitāne could be more effectively and efficiently addressed through a minor amendment to add the words “*and within their rohe*” to the end of Objective CC.8. This would clarify that the intent of Objective CC.8 is to not just empower mana whenua to achieve climate-resilience within their communities, it also applies to the wider environment within their rohe (including significant cultural sites). In terms of section 32AA of the RMA, I consider that this amendment to Objective CC.8 is an appropriate way to achieve the purpose of the RMA as it retains the intent of the objective while better providing for the relationship of mana whenua/tangata whenua with te taiao consistent with section 6(e) of RMA.
- 85 I do not recommend that Objective CC.8 is extended to business, farming and the community or that a new objective added with same effect as requested by Ms McGruddy for WFF. Objective CC.8 is intended to be specific to mana whenua/tangata whenua and expanding out this “empowering” to all parts of the community could have unintended implications for implementing policies and methods and could be very resource demanding for Greater Wellington Regional Council.

### **Policy CC.8**

- 86 Policy CC.8 is addressed in the evidence of Kāinga Ora, PCC, UHCC, Rangitāne, WIAL and WFF.

### Kāinga Ora

- 87 Ms Woodbridge considers that my section 42A recommended amendments to Policy CC.8 provide some improvements to the notified version of policy. However, Ms Woodbridge is still of the opinion that it is unclear how district plans will implement the outcomes sought

through the policy. For example, Ms Woodbridge notes that district plans have no scope to reduce GHG emissions from existing activities and this is within the RMA functions and powers of regional councils. Ms Woodbridge also notes that district plans will not be able to require offsetting from existing activities as indicated in clause (b) of Policy CC.8.

88 Ms Woodbridge notes that the words “where practicable” in each clause of Policy CC.8 provide some assistance in resolving these issues. However, in her opinion, these words alone do not go far enough to provide sufficient clarity as to how district plans would implement the ‘reduce’ GHG emissions direction in Policy CC.8. To address these concerns, Ms Woodbridge suggests three options:

88.1 Split Policy CC.8 into a policy for regional councils and a policy for district councils, with the latter being limited to new and expanded activities.

88.2 Expanding the explanation of Policy CC.8 to make it clear that the “reduce” direction for existing activities is for regional councils. Ms Woodbridge is of the opinion that this is the most appropriate option as it will provide greater clarity without weakening the outcome sought.

88.3 Policy CC.8 is redrafted to provide greater directional outcomes for district plans in terms of avoiding or reducing GHG emissions from new activities.

#### Porirua City Council

89 Mr Rachlin notes the significant changes recommended to Policy CC.8 and the associated explanation in my section 42A report. However, Mr Rachlin remains concerned with Policy CC.8 and seeks clarification as to where the efficiency and effectiveness of the policy was assessed in the section 32 evaluation report for Change 1. More specifically, Mr Rachlin seeks clarification as to whether Policy CC.8 was assessed as part of a preferred option relating to reducing transport GHG emissions under Objective CC.3 and, if so, why the policy is not restricted to transport related consents. Mr Rachlin also states in his evidence that it is unclear why this additional policy is needed in addition to the more specific climate change policies in Change 1.

90 At a broader level, Mr Rachlin restates the position in the original PCC submission that the discharge of greenhouse gases is not a function of territorial authorities under section 31 of the RMA and therefore Policy CC.8 should be deleted or be amended to only apply to

regional councils. If Policy CC.8 is retained, Mr Rachlin recommends that implementation of the policy is deferred until the guidance recommended in Method CC.2 is available.

#### Upper Hutt City Council

- 91 Ms Rushmere considers that my section 42A recommended amendments to Policy CC.8 are an improvement to the notified policy. In her opinion, my recommended amendments to Policy CC.8 provide a clear hierarchy and flexibility to assess and require action on a case-by-case basis.
- 92 However, Ms Rushmere notes my concerns in the section 42A report for this topic *‘that notified Policy CC.8 is overly focused on regional and district plans creating an offsetting regime for certain activities, with a lack of clear guidance on how this will be achieved in practice’*. Ms Rushmere also shares these concerns and questions how the hierarchy in Policy CC.8 should be applied in a district plan context without further national policy direction on the issue.
- 93 In the absence of national policy direction on offsetting and, in her opinion, a lack of adequate analysis in the section 32 evaluation report for Change 1, Ms Rushmere considers that Policy CC.8 should be deleted and deferred until further work has been completed in these areas.

#### Rangitāne

- 94 Ms Burns agrees with my section 42A recommended amendments to Policy CC.8 to prioritise avoiding or reducing gross GHG emissions. However, Ms Burns is of the opinion that Policy CC.8 needs to be strengthened to clarify how the approach is to be applied by local authorities so that greater consistency is achieved across the region.
- 95 Ms Burns agrees that some flexibility is necessary through the use of the words *“where practicable”* in the proposed Policy CC.8 hierarchy. However, Ms Burns recommends that this wording be strengthened further to ensure there is a strong commitment to providing for the matters under Policy CC.8. To achieve this, Ms Burns recommends replacing *“where practicable”* with *“to the greatest extent practicable”*. Ms Burns also recommends that the words *“to the extent practicable”* be removed from clause (c) in Policy CC.8 on the basis that increases in net GHG emissions should be avoided without exception.

## WIAL

96 Ms Hunter remains concerned with my section 42A recommended amendments to Policy CC.8. Ms Hunter is concerned that Policy CC.8 does not adequately recognise the unique situation of some industries, such as aviation, nor the specific climate change initiatives that have been developed for certain sectors. Ms Hunter also notes potential inconsistencies with Policy CC.8 and the provisions in Change 1 relating to GHG emissions from transport which do not apply to GHG emissions from aircraft. Overall, Ms Hunter is concerned that it is unclear if and how Policy CC.8 would apply to the aviation sector and recommends it be deleted (as an alternative relief to WIAL's primary relief outlined above).

## WFF

97 Ms McGruddy recommends that Policy CC.8 be amended to replace GHG emissions with CO<sub>2</sub>. I understand that the intent of this recommendation is that Policy CC.8 does not apply to methane emissions from the agricultural sector.

## Analysis and recommendations

98 Ms Woodbridge raises some valid questions about the implementation of Policy CC.8 in relation to the respective RMA functions and powers of regional councils and territorial authorities to avoid and reduce GHG emissions. These are exactly the issues that I expect will be addressed and clarified through Method CC.2 (develop guidance on reducing and offsetting emissions) with my recommended amendments to support the implementation of Policy CC.8. However, I agree with Ms Woodbridge that it would be beneficial to further clarify this in the explanation of Policy CC.8 and recommend amendments to the explanation consistent with the relief sought by Ms Woodbridge as set out below and in Appendix 1 of this evidence:

[This work will recognise the respective RMA functions of the Wellington Regional Council and city and district councils in relation to controlling greenhouse gas emissions from air discharges and land-use activities and the limited role of district plans in reducing greenhouse gas emissions from existing activities.](#)

99 I also recommend consequential amendments to Method CC.2 so that the guidance also focuses on opportunities to avoid GHG emissions in addition to reducing and offsetting

GHG emissions, consistent with Policy CC.8. This simply involves the insertion of “avoiding” alongside “reducing” in the title of Method CC.2 and within the method itself.

100 The evidence from other submitters on Policy CC.8 either requested that the policy be deleted or significantly amended for reasons that I consider have been fully or partly addressed in my section 42A report for this topic (in particular paragraphs 261 to 274). In summary:

100.1 Territorial authorities have RMA functions and district plans play an important role managing the GHG emissions from land-use activities in addition to regional councils and regional plans. In my view, this is part of the core function of territorial authorities to manage the adverse effects of land-use activities on the environment.

100.2 In my opinion, Policy CC.8 serves an important role in setting the direction for how GHG emissions should be managed based on a hierarchy that reflects best practice, i.e. focusing on avoiding gross GHG emission as a priority, then reducing net emissions, then avoiding increases in net emissions. This general direction complements the more specific climate change policies in Change 1.

101 In relation to the clarification sought by Mr Rachlin for PCC:

101.1 I acknowledge Mr Rachlin’s concern that the section 32 evaluation report did not specifically refer to Policy CC.8 in the analysis of the efficiency and effective of the climate change provisions. I consider that the omission likely occurred due to the fact that Policy CC.8 has an overarching focus with respect to the climate change provisions in Change 1 in terms of prioritising reducing gross GHG emissions over offsetting. However, the section 32 report was focused on different climate change topics (transport, agriculture etc.), so Policy CC.8 did not get specifically assessed, either individually or as a package of provisions. Nonetheless, I have provided an analysis of Policy CC.8 in my section 42A report (paragraphs 261 to 274) including a section 32AA further evaluation (paragraph 275). In that evaluation, I concluded my recommended amendments to Policy CC.8 are the most appropriate way to achieve the relevant RPS objectives, and in particular Objectives CC.1, CC.3 and CC.5.

- 101.2 As outlined above, Policy CC.8 is broader than “transport-related consents” and, in my opinion, it provides useful direction on the general approach to avoid or reduce GHG emissions in the region from all sectors as applicable.
- 102 In response to the concerns of Ms Hunter, I have recommended a statement in the introduction of Chapter 3.1A to make it clear that the climate change provisions do not apply to GHG emissions from aircraft. I expect that this will address the relief sought by Ms Hunter on behalf of WIAL.
- 103 I do not recommend the words “*where practicable*” are replaced with “*to the greatest extent practicable*” as requested by Ms Burns. As stated in my section 42A report (paragraph 271) the words “*where practicable*” are important in the context of Policy CC.8 to allow cost-considerations and context specific factors to be taken into account, to recognise that GHG emissions from many activities are unavoidable, and to ensure that Policy CC.8 does not result in plan provisions that are overly onerous on sectors and communities in the region. The addition of the words “*to the greatest extent*” would naturally make the requirements in the Policy CC.8 hierarchy harder to meet and would likely lead to greater compliance costs and debate in its implementation.
- 104 I acknowledge the request from Mr Rachlin that the implementation of Policy CC.8 should be deferred until the guidelines recommended under Method CC.2 are available. I consider this is unnecessary as there are no timeframes specified in Change 1 to give effect to Policy CC.8<sup>6</sup> and I would naturally expect that implementation of Policy CC.8 will occur after the guidelines are available (without precluding this from happening sooner).
- 105 I do not recommend that Policy CC.8 is amended to replace greenhouse gas emissions with CO<sub>2</sub> as requested by Ms McGruddy – the reasons for this are set out in the section 42A report and rebuttal evidence for the Climate Change – Agricultural Emissions topic. While Policy CC.5 is specific to agricultural GHG emissions, I consider that the hierarchy in Policy CC.8 provides useful, complementary direction on how to implement that policy, which can be confirmed through the work recommended under Method CC.2 and Method CC.5.

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<sup>6</sup> Noting that section 73(5) of the RMA states that district plans must give effect to a RPS within the time specified in the statement, if a time is specified; or as soon as reasonably practicable, in any other case. In my opinion, it would be reasonably practicable for CC.8 to be implemented after the guidance in Method CC.2 is available.

## **Method CC.1**

106 Method CC.1 is addressed in the evidence of Ms Rushmere on behalf of UHCC, who supports my section 42A report recommendations to Method CC.1.

## **Anticipated environmental results**

107 The Climate Change Anticipated Environmental Results are addressed in the evidence of PCC and WFF.

### Porirua City Council

108 Mr Rachlin supports my section 42A recommended amendments to the Climate Change Anticipated Environmental Results. However, Mr Rachlin is concerned that there is no anticipated environmental result listed for a climate-resilient region, which he considers is required given this is a key focus of Objective CC.1. Without this anticipated environmental result, Mr Rachlin considers that it will be difficult to know when a climate-resilient region has been achieved. In the interim, Mr Rachlin suggests that the Climate Change Anticipated Environmental Results should cross-reference those for the Natural Hazards chapter.

### WFF

109 Ms McGruddy recommends in her hearing statement that climate change anticipated environmental results be amended to replace greenhouse gas emissions with CO<sub>2</sub>.

### Analysis and recommendations

110 I agree with Mr Rachlin that there are some gaps in the anticipated environment results for the proposed climate change objective in Change 1. The notified Climate Change Anticipated Environmental Result relates directly to Objective CC.3 not the broader climate change objectives in Change 1. Arguably, there should be an anticipated environment result for each climate change objective which is more consistent with other sections in the RPS and other Change 1 objectives.

111 In terms of the specific relief sought by Mr Rachlin, I have discussed this with the section 42A authors for the Nature-Based Solutions and Climate-Resilience and Natural Hazards topics who agree there should be additional anticipated environments results for climate-resilience and adaptation and recommend the following anticipated environmental results which I support.

Objective	Anticipated environmental result
<p><b>Objective CC.4:</b> <i>Nature-based solutions</i> are an integral part of <i>climate change mitigation</i> and <i>climate change adaptation</i>, improving the health, well-being and resilience of people, <i>indigenous biodiversity</i>, and <i>the natural and physical resources environment</i>.</p>	<p>By 2030, <i>nature-based solutions</i> are provided for as standard good practice in new development and infrastructure.</p>
<p><b>Objective CC.6:</b> Resource management and adaptation planning increases the resilience of communities, <i>infrastructure</i> and the natural environment to the short, medium, and long-term effects of climate change.</p>	<p>By 2030, <i>community-based adaptation plans</i> have been developed for areas assessed as facing high risks from natural hazards and climate change.</p>

112 I do not recommend that the Climate Change Anticipated Environmental Result is amended to replace greenhouse gas emissions with CO<sub>2</sub> as requested by Ms McGruddy. The reasons for this are set out in the section 42A report and rebuttal evidence for the Climate Change – Agricultural Emissions topic.

## Definitions

### Definitions

113 Mr Rachlin’s evidence for PCC raises issues with two definitions in this topic. In particular, Mr Rachlin considers that:

113.1 The definition of ‘climate change adaption’ in Change 1 is not fit for purpose as using a definition found in the IPCC Climate Change 2023 Synthesis Report does not mean that it is suitable for use in an RMA context. Mr Rachlin is concerned that the definition currently reads as an explanation of a concept rather than an actual definition that is appropriate for use in a regulatory framework.

113.2 Mr Rachlin considers that either the definition of climate change adaptation be deleted or, if it is to be retained, that the definition be amended based on his ‘working definition’ to state: *‘Means an action or series of actions that moderate adverse effects to people, structures, built environments and natural resources from expected changes in climate arising from climate change.’*

113.3 The definition of ‘climate change mitigation’ has the same issues above as definition of ‘climate change adaption’ and should be deleted for the same reasons. Alternatively, Mr Rachlin recommends that the definition is replaced



with his 'working definition' as follows '*Means an action or series of actions that reduce emissions or provide opportunity to reduce emissions.*' Mr Rachlin considers this wording more accurately defines the activity in a way that is more appropriate for use in a resource management regulatory framework.

114 Ms Foster for Meridian also raises concerns about the definition of 'climate change mitigation'. In response to my section 42A recommendation to delete the examples from the definition of climate change mitigation, Ms Foster notes that these examples were useful but incomplete, which was the issue in Meridian's submission. Ms Foster is of the view that renewable energy generation should be mentioned in the definition of climate change mitigation given this is recognised as being critical to support reductions in GHG emissions. To address these gaps, Ms Foster recommends that the definition should be amended to include reference to "*provide supplementary or development of new and alternative renewable energy sources to assist the reduction of greenhouse gas emissions*".

115 Mr Smeaton's evidence for PCC requests amendments to the definition of "carbon emissions assessment" on the basis that the definition is not "sufficiently clear or robust." Mr Smeaton notes that, with reference to the technical evidence of Mr Roos, greenhouse gases are measured in reference to a carbon dioxide equivalent to capture all greenhouse gases in the measurement. The term 'carbon footprint' is also considered ambiguous by Mr Smeaton. As such, Mr Smeaton proposes that the definition of 'carbon emissions assessment' is amended as follows:

**Whole-of-life carbon emissions assessment**

An evaluation of the total greenhouse gas emissions of a proposal measured in carbon dioxide equivalent units, derived from assessing the emissions associated with all stages and components of the project's life.

116 **Climate change adaptation** – I have discussed Mr Rachlin’s alternative definition with the section 42A authors for the Nature-Based Solutions and Climate-Resilience and Natural Hazards topics. In my opinion, it is preferable to retain the Change 1 definition as it refers to both human and natural systems. However, I do recommend minor amendments to refer to “actions and processes” in the first sentence of the definition and to delete the last sentence as this is not necessary within the definition in my opinion. These amendments are shown below and in Appendix 1 of this evidence:

In human systems, ~~actions and processes to the process of~~ adjusting to actual or expected climate and its effects, in order to ~~moderate reduce~~ harm or take advantage of beneficial opportunities. In natural systems, the process of adjusting to actual climate and its effects. ~~Human intervention may help these systems to adjust to expected climate and its effects.~~

117 **Climate change mitigation** – in my opinion, the definition in Change 1 is preferable that than proposed by Mr Rachlin particularly as it refers to both reducing sources of GHG emissions and enhancing removal by sinks of greenhouse gases. I also do not recommend any change to the definition in response to the evidence Ms Foster. As stated elsewhere in my evidence, I acknowledge that the development of renewable energy generation is essential to transition away from fossil fuel dependency, electrify the economy, and achieve the significant reductions in GHG emissions needed. However, I see the development of renewable energy generation as being critical to **support** climate change mitigation (reducing GHG emissions and increasing sinks), it is not in itself a form of climate change mitigation. I am not aware of definitions of climate change mitigation that refer to the development of renewable energy generation, but I would welcome Ms Foster’s view on this.

118 **Carbon emission assessment:** in response to the request of Mr Smeaton for amendments to the definition of ‘carbon emissions assessment,’ I generally accept the points Mr Smeaton raises and have sought advice from Mr Roos on the technical aspects. Mr Roos advised that it would be useful to provide more detail on different GHGs to describe the impact of a proposal on the climate more accurately. As such, I recommend the definition is amended as set out below.

*Whole-of-life greenhouse gas ~~carbon~~ emissions assessment*

An evaluation of the total greenhouse gas emissions of a proposal carbon footprint which measured in tonnes of carbon dioxide equivalent units, derived from assessing the emissions associated with all elements of the proposed project over its entire life. the total volume of greenhouse gases emitted at different stages of a project lifecycle.

**DATE:**

**22 August 2023**

**Jerome Wyeth**

**Principal Planning and Policy Consultant,  
4Sight Consulting – Part of SLR**

# Appendix 1: Recommended amendments to the Climate Change – General provisions

Section 42A recommended amendments shown in red underlined and marked-up text, rebuttal evidence recommended amendments shown in blue underlined and marked-up text.

Section 42A recommended amendments shown in red underlined and marked-up text, rebuttal evidence recommended amendments shown in blue underlined and marked-up text.

## 3.1A Climate Change

As of 2022, long term weather records show that seven of the past nine years have been amongst New Zealand's warmest on record, with 2021 and 2016 being the two hottest recorded years. In the Wellington region, we have one of the highest rates of sea level rise in New Zealand due to the effects of global sea level rise, compounded by a regional trend of tectonic subsidence.

Predictions are for significant climate change impacts in the Wellington Region<sup>1</sup> significant impacts by 2090 if global greenhouse gas emissions are not significantly reduced. The annual regional temperatures, for instance, could increase by up to 3°C. The key highlights from the report include:

- Wellington and Wairarapa will experience a significant increase in hot days
- Frost occurrence, including in the high elevation areas, is projected to significantly decrease
- Spring rainfall will reduce by up to 15 percent in eastern areas
- Up to 15 percent more winter rainfall could be experienced along the west coast
- The risk of drought will increase in the Wairarapa
- More extreme rainfall events

Some changes are occurring faster than previously expected, such as sea level rise and ocean warming, leading to more frequent and energetic storms causing an increase in flooding, coastal erosion and slips in many parts of the region.

~~While historical emissions mean that we are already locked into continued global warming until at least mid-century, and longer for sea-level rise, there is still opportunity to avoid the worst impacts of climate change if we act urgently across all sectors to make significant reductions in global greenhouse gas emissions.~~

~~There is still an opportunity to limit warming to 1.5 °C if global net anthropogenic CO<sub>2</sub> emissions are reduced by 48 percent from 2019 levels by 2030 and a 99 percent reduction in CO<sub>2</sub> emissions is achieved by 2050 (these are median values). When all greenhouse gases are considered, global net emissions expressed as CO<sub>2</sub>e must reduce by between 73 and 98 percent by 2050 to give a 50% chance of limiting warming to 1.5 °C with low or no overshoot.~~

In 2021 He Pou a Rangi the Climate Change Commission issued a call to all New Zealanders “to take climate action today, not the day after tomorrow”, concluding that New Zealand needs to be proactive and courageous as it tackles the challenges the country will face in the years ahead. All levels of central and local government must come to the table with strong climate plans to get us on the right track, concluding that bold climate action is possible when we work together.

While this will require bold and decisive action, there is a need to act carefully, recognising that the costs **and benefits** of change will not be felt equally across our communities and that provision needs to be made for an equitable transition.

In 2019, Greater Wellington Regional Council declared a climate emergency, pledging to become carbon neutral by 2030 and to take a leadership role to develop a Regional Climate Emergency Response Programme, working collaboratively with **mana whenua/tangata whenua iwi**, key institutions and agencies to reduce *greenhouse gas emissions* and prepare for the unavoidable effects of climate change, supporting international and central government targets for **greenhouse gas emissions** reductions and adaptation planning.

The key areas of action required to address climate change are to:

1. Reduce gross *greenhouse gas emissions*. This includes transitioning as rapidly as possible from fossil fuels to renewable energy and recognising that methane reductions offer a significant opportunity for **limiting** global cooling in the **nearshort**-term.
2. Increase greenhouse gas sinks through carbon sequestration, while recognising that **due to the limitations of this approach, this is only a short-term solution, and** that the focus must be on reducing gross GHG emissions.
3. Take adaptation action to increase the resilience of our communities, the natural and built environment to prepare for the changes that are already occurring and those that are coming down the line. Critical to this is the need to protect and restore natural ecosystems so they can continue to provide the important services that ensure clean water and air, support indigenous biodiversity and ultimately, people.

### **The role of the resource management system in the climate change response**

The causes of climate change need to be addressed by internationally coordinated action, but our success depends on responses at national, local and individual levels.

The resource management system plays a key role in helping to reduce *greenhouse gas emissions*. This section of the Regional Policy Statement sets out issues, objectives, policies and methods to help achieve a significant reduction in *greenhouse gas emissions* and improve the resilience of the Wellington Region to the effects of climate change. It is intended to complement the Climate Change Response Act 2002 and the range of actions and initiatives in Aotearoa New Zealand’s Emission Reductions Plan and National Adaptation Plan prepared under that Act. This recognises that the achievement of *greenhouse gas emission* reduction targets, including those in Objective CC.3 of this statement, requires a range of actions,

initiatives and financing tools that sit both within and outside of the resource management system.

Note that for the avoidance of doubt:

- Objective CC.3 seeks to ensure the management, use and protection of natural and physical resources in the Wellington Region contributes to the 2030 and 2050 regional *greenhouse gas emission* targets – it is not a limit nor intended as an allocation regime between different sectors.
- The climate change objectives, policies and methods in this Chapter do not apply to *greenhouse gas emissions* from aircraft.

### Regionally significant climate change issues

The regionally significant issues, and the issues of significance to the Wellington Region's iwi authorities for climate change are:

#### **1. Greenhouse gas emissions must be reduced significantly, immediately and rapidly**

Immediate, rapid, and large-scale reductions in *greenhouse gas emissions* are required to limit global warming to 1.5°C, the threshold to avoid significant impacts on the natural environment, the health and well-being of our communities, and our economy. Extreme weather events and sea level rise are already impacting our region, including on biodiversity, water quality and availability, and increasing the occurrence and severity of natural hazards. Historical emissions mean that we are already locked into continued warming until at least mid-century, but there is still an opportunity to avoid the worst impacts if global net anthropogenic CO<sub>2</sub> emissions are reduced by at least 50 percent from 2019 levels by 2030, and carbon neutrality is achieved by 2050.

In the Wellington Region, the main sources of *greenhouse gas emissions* are transport (39 percent total load in 2018-19), agriculture (34 percent), and stationary energy (18 percent). Development of the renewable energy resources in the Region will be necessary to assist the transition from fossil fuel dependency and achieve the significant reductions in *greenhouse gas emissions* needed from these sources.

#### **2. Climate change and the decline of ecosystem health and biodiversity are inseparably intertwined**

Climate change is placing significant additional pressure on species, habitats, ecosystems, and ecosystem processes, especially those that are already threatened or degraded, further reducing their resilience, and threatening their ability to persist. This, in turn, reduces the health of natural ecosystems, affecting their ability to deliver the range of ecosystem services, such as carbon sequestration, natural hazard mitigation, erosion prevention, and the provision of food and amenity, that support our lives and livelihoods and enable mana whenua/*tangata whenua* to exercise their way of being in ~~the~~ Te Ao Tūroa, the natural world.

### **3. The risks associated with natural hazards are exacerbated by climate change**

The hazard exposure of our communities, land, [mana whenua/tangata whenua sites](#), [wāhi tapu](#), infrastructure, food [security](#) (including mahinga kai), and water security is increasing because of climate change impacts on a range of natural hazards. Traditional approaches to development that have not fully considered the impacts on natural systems. ~~and our over-reliance on~~ Hard engineered protection works [that have not been designed to withstand the impacts of climate change, which will be likely to inevitably](#) become [compromised overwhelmed](#) and uneconomic to sustain, ~~will which can~~ ultimately increase the risk to communities and the environment.

### **4. The impacts of climate change will exacerbate existing inequities**

The impacts and costs of responding to climate change will not be felt equitably, especially for [mana whenua/tangata whenua Māori](#). Some communities have no, or only limited, resources to enable mitigation and adaptation and will therefore bear a greater burden than others, with future generations bearing the full impact.

### **5. Climate change threatens tangible and spiritual components of [mana whenua/tangata whenua Māori](#) well-being**

Climate change threatens both the tangible and spiritual components of [mana whenua/tangata whenua Māori](#) well-being, including Te Mana o Te Wai and Te Rito o Te Harakeke, mahinga kai, and taonga species, and the well-being of future generations. Significant sites for [mana whenua/tangata whenua Māori](#), such as marae, [wāhi tapu](#) and urupā, are particularly vulnerable as they are frequently located alongside the coast and fresh waterbodies.

### **6. Social inertia and competing interests need to be overcome to successfully address climate change**

Many people and businesses lack [the understanding, resources, ability or support to make the changes needed transition to a low-emissions and climate-resilient future. It can be challenging for people and businesses to make the an understanding of](#) the connection between their actions, *greenhouse gas emissions* and climate change and the ways that [climate change it](#) will impact their lives. ~~In turn, this detracts from our ability to conceive of the changes we can make to help the transition to a low-emissions and climate-resilient future.~~ Social inertia and competing interests are [some of the biggest issues to overcome to address climate change.](#)

## **Objective CC.1**

~~By 2050, t~~The Wellington Region is a low-emission and climate-resilient region, where climate change mitigation and adaptation are an integral part of:

- (a) sustainable air, land, freshwater, and coastal management,
- (b) well-functioning urban [areas environments](#) and rural areas, and
- (c) [the well-planning](#) ed and [delivery of](#) infrastructure.

## **Objective CC.2**

The costs and benefits of transitioning to a low-emission and climate-resilient region are ~~shared fairly to achieve social, cultural, and economic well-being across our equitable between sectors and communities.~~

## **Objective CC.3**

To support the global goal of limiting warming to 1.5 degrees Celsius ~~and New Zealand's greenhouse gas emissions reduction targets, net greenhouse gas emissions from transport, agriculture, stationary energy, waste, and industry~~ in the Wellington Region are reduced:

- (a) ~~By 2030, to contribute to a 50 percent reduction in greenhouse gas emissions from 2019 levels by 2030, including a:~~
  - ~~(i) 35 percent reduction from 2018 levels in land transport-generated greenhouse gas emissions;~~
  - ~~(ii) 40 percent increase in active travel and public transport mode share from 2018 levels, and~~
  - ~~(iii) 60 percent reduction in public transport emissions, from 2018 levels, and~~
- (b) ~~By 2050, to contribute to achieving net-zero greenhouse gas emissions by 2050.~~

## **Objective CC.7**

People and businesses understand ~~what the current and predicted future effects of climate change, and how these may impact them, means for their future how to respond to the challenges of climate change,~~ and are actively involved in ~~planning and implementing~~ appropriate mitigation and adaptation responses.

## **Objective CC.8**

~~Iwi and hapu Mana whenua/tangata whenua~~ are empowered to ~~make decisions to~~ achieve climate-resilience in their communities.

## **Policy CC.8: Prioritising the reduction of greenhouse gas emissions reduction over offsetting – district and regional plans**

District and regional plans shall ~~include objectives, policies, rules and/or methods to prioritise reducing greenhouse gas emissions in the first instance rather than applying offsetting, and to identify the type and scale of the activities to which this policy should apply.~~ – prioritise reducing greenhouse gas emissions by applying the following hierarchy in order:

- a) ~~in the first instance, gross greenhouse gas emissions are avoided or reduced where practicable; and~~



- b) where gross greenhouse gas emissions cannot be avoided or reduced, a net reduction in greenhouse gas emissions is achieved where practicable, with any offsetting undertaken as close to the source of the greenhouse gas emissions as possible; and
- c) increases in net greenhouse gas emissions are avoided to the extent practicable.

**Explanation:** This policy recognises the importance of reducing gross greenhouse gas emissions as the first priority, then reducing net greenhouse gas emissions, then avoiding increases in net greenhouse gas emissions to the extent practicable. ~~and only using carbon removals to offset emissions from hard-to-abate sectors.~~ Relying heavily on net-emissions through offsetting will delay people taking actions that reduce gross emissions, lead to higher cumulative emissions and push the burden of addressing gross emissions onto future generations.

The intent is that Wellington Regional Council will work with city and district councils to provide co-ordination and guidance as to how to implement this policy, to ensure regional and district plan provisions to reduce greenhouse gas emissions from key emitting sectors in the region are co-ordinated and also complement national policy and initiatives. This work will recognise the respective RMA functions of the Wellington Regional Council and city and district councils in relation to controlling greenhouse gas emissions from air discharges and land-use activities and the limited role of district plans in reducing greenhouse gas emissions from existing activities. This work will consider issues such as scale, equity, and the type of activities to which offsetting should apply.

#### **Method CC.1: Climate change education and behaviour change programme**

Support, ~~and enable and implement~~ climate education and behaviour change programmes, that include Te Ao Māori and Mātauranga Māori perspectives in partnership with mana whenua/tangata whenua, to support an equitable fair-transition to a low-emission and climate-resilient region.

Implementation: Wellington Regional Council.

#### **Method CC.2: Develop carbon emissions offsetting guidance on avoiding, reducing and offsetting greenhouse gas emissions**

Greater Wellington will work with city and district councils and mana whenua/tangata whenua to develop guidelines to implement Policy CC.8 by the end of 2024, including how to prioritise avoiding and reducing gross greenhouse gas emissions and when and how to allow for greenhouse gas emissions to be offset ~~Develop offset guidelines to assist with achieving the regional target for greenhouse emissions~~ where reduction cannot be achieved at the source.

Implementation: Wellington Regional Council.

## Climate Change – Anticipated Environment Results

<u>Objective</u>	<u>Anticipated environmental result</u>
<p>To support the global goal of limiting warming to 1.5 degrees Celsius <u>and New Zealand's greenhouse gas emissions reduction targets</u>, net <u>greenhouse gas emissions from transport, agriculture, stationary energy, waste, and industry</u> in the Wellington Region are reduced:</p> <p>(a) <u>By 2030</u>, to contribute to a 50 percent reduction in <u>greenhouse gas emissions</u> from 2019 levels by 2030, <u>including a:</u></p> <ul style="list-style-type: none"> <li><u>(i) 35 percent reduction from 2018 levels in land transport generated greenhouse gas emissions,</u></li> <li><u>(ii) 40 percent increase in active travel and public transport mode share from 2018 levels, and</u></li> <li><u>(iii) 60 percent reduction in public transport emissions, from 2018 levels,</u></li> </ul> <p>and</p> <p>(b) <u>By 2050</u>, to <u>contribute to achieving net-zero greenhouse gas emissions by 2050.</u></p>	<p><u>Net greenhouse gas Carbon emissions</u> are reduced by 50 percent from 2019 levels by 2030 across the Wellington Region <u>and to achieve net-zero greenhouse gas emissions by 2050.</u></p>
<p><b>Objective CC.4:</b> <u>Nature-based solutions</u> are an integral part of <u>climate change mitigation</u> and <u>climate change adaptation</u>, improving the health, <u>well-being</u> and resilience of people, <u>indigenous biodiversity</u>, and <u>the natural and physical resources environment.</u></p>	<p><u>By 2030, nature-based solutions are provided for as standard good practice in new development and infrastructure.</u></p>
<p><b>Objective CC.6:</b> <u>Resource management and adaptation planning</u> increases the resilience of communities, <u>infrastructure</u> and the natural environment to the short, medium, and long-term effects of climate change.</p>	<p><u>By 2030, community-based adaptation plans have been developed for areas assessed as facing high risks from natural hazards and climate change.</u></p>

## Climate Change – Definitions

### Carbon ~~greenhouse gas~~ emissions assessment

An evaluation of the ~~carbon footprint which measures the total volume of greenhouse gases emitted at different stages of a project lifecycle~~ ~~total greenhouse gas emissions~~ of a proposal measured in tonnes of carbon dioxide equivalent units, derived from assessing the ~~greenhouse gas emissions~~ associated with all elements of the proposed project over its entire life.

### Climate change adaptation

In human systems, ~~actions and processes to the process of~~ adjusting to actual or expected climate and its effects, in order to ~~moderate reduce~~ harm or take advantage of beneficial opportunities. In natural systems, the process of adjusting to actual climate and its effects. ~~Human intervention may help these systems to adjust to expected climate and its effects.~~

### Climate change mitigation

Human actions to reduce ~~greenhouse gas~~ emissions by sources or enhance removals by sinks of greenhouse gases. ~~Examples of reducing emissions by sources include walking instead of driving, or replacing a coal boiler with a renewable electric-powered one. Examples of enhancing removals by sinks include growing new trees to absorb carbon, promoting and providing for active transport, and increasing public transport services and affordability.~~

### ~~Emissions~~

~~Greenhouse gases released into the atmosphere, where they trap heat or radiation.~~

### ~~Greenhouse gases~~ emissions

Atmospheric gases ~~released into the atmosphere that trap or absorb heat and~~ contribute to climate change. These ~~gases covered by the Climate Change Response Act 2002~~ are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF<sub>6</sub>) ~~which are all covered by the Climate Change Response Act 2002.~~