Activists outside the UN climate negotiations holding a banner supporting the Paris Agreement's 1.5ºC target. CC-BY-NZ David Tong.

A FAIR 2030 TARGET FOR AOTEAROA

Options to reflect equity in New Zealand's nationally determined contribution under the Paris Agreement

New Zealand should greatly enhance its 2030 target under the Paris Agreement on the basis of equity. Climate finance for developing countries must play a critical part in meeting our fair share of the global effort to limit warming to 1.5ºC.

www.oxfam.org.nz

OXFAM

SUMMARY

Aotearoa New Zealand's current Nationally Determined Contribution (**NDC**) of 11% off 1990 levels by 2030 falls short of its equitable contribution to the global effort to limit warming to 1.5ºC.

Our current target is not equitable, and the law requires the Government to consider equity.

International and New Zealand law both require the Government to consider equity in setting emissions budgets and targets, and therefore to differentiate New Zealand's emissions reductions.

Several competing equity models exist. When each model is based on a trajectory that limits warming to 1.5ºC, with no or limited overshoot, these models suggest that New Zealand's fair NDC for 2030 would involve emissions reductions ranging from at least 57% off 1990 levels, to cutting emissions by 99%, or even reaching net negative emissions by 2030.

The models that suggest targets below 80% either involve a high overshoot above 1.5ºC, or factor in national circumstances that make domestic emissions reductions more expensive. Those that factor in the latter also allow international mitigation through emissions trading, which ought to make concessions for the relative cost of domestic reductions less applicable.

Consequently, Oxfam New Zealand considers that New Zealand's fair share of the global effort to limit warming to 1.5ºC with no or limited overshoot would be no less than an 80% reduction from 1990 levels by 2030 – even if the Government did not consider its historical responsibility. Considering our historical responsibility, New Zealand's fair share would be a reduction of at least 99% below 1990 levels by 2030.

New Zealand's fair share would be no less than an 80% reduction from 1990 levels by 2030.

It is unlikely that a New Zealand Government would set a 2030 NDC that demands such rapid emissions reductions. Achieving such high emission reductions domestically in that timeframe is also unlikely to be the most efficient or lowest cost way to cut that volume of emissions from the global total.

Therefore, we propose the following actions for the Climate Change Commission to recommend, and the Climate Minister to enact.

- Publicly acknowledge that New Zealand's fair share of the global effort to limit warming would amount to cutting emissions by at least 80% by 2030 – or by at least 99% if we accepted our historical responsibility.
- Progressively enhance our NDC in line with our maximum possible ambition, acknowledging our much higher fair share, but considering our national circumstances, costs of mitigation, and the imperative of a just transition.
- Commit in our NDC and in other policy to rapidly scale up our climate finance contributions to developing countries, to close as much of the gap between our NDC's top line mitigation contribution and our fair share of mitigation action as is possible.

We should acknowledge our fair share, enhance our 2030 target and scale up climate finance for developing countries to close as much of the gap between our NDC and fair share as possible.

- Articulate approximately what proportion of our NDC is expected to be met domestically and what is to be met through international trading, to ensure coherence with New Zealand's anticipated five yearly emissions budgets.

INTRODUCTION

New Zealand's current NDC is an 11% reduction from 1990 levels by 2030.

New Zealand submitted its intended nationally determined contribution (**INDC**) in the negotiations leading up to the Paris Agreement in July 2015, committing to reducing New Zealand's greenhouse gas emissions to 30% below 2005 levels by 2030 (which equates to 11% below 1990 levels).[1] This target is set using an emissions budget approach.[2] In October 2016, New Zealand converted this to its first nationally determined contribution (**NDC**).[3]

Oxfam New Zealand has consistently called for a stronger NDC.

At that time, Oxfam New Zealand was "enormously disappointed" with this 2030 target, and described it as a "slap in the face" to New Zealand's Pacific neighbours, and as showing a "worrying lack of ambition".[4] Over 15,000 New Zealanders had submitted in the Government's 2015 INDC consultation process, and of those who mentioned a numerical target, over 99.5% sought a more ambitious reduction than the 11% target that was adopted.[5]

Much has changed since 2016. The Intergovernmental Panel on Climate Change (**IPCC**) published its *Special Report on Global Warming of 1.5ºC* in 2018.[6] Parliament has enshrined the Paris Agreement's 1.5ºC target in law by passing the Climate Change Response (Zero Carbon) Act 2019 (**Zero Carbon Act**) with 119 votes in favour.[7] Critically, climate impacts have also continued to strike people and communities around the world – especially those who have done the least to cause this crisis, and those who are made vulnerable by systems of social, political and economic injustices.

Now is the moment for countries to step up their climate ambition.

The 2015 Paris Conference of the Parties (**COP**) decision required New Zealand to 'communicate or update' its 2030 NDC by 2020, and at least nine months before the scheduled November 2020 COP26 in Glasgow, which was postponed to November 2021 due to the coronavirus pandemic.[8]

This is a window of time to pause and reset the barometer of action in the midst of huge challenges from the pandemic and its effects on people and societies. The need and opportunity for climate justice, the concept that action on climate change must also reflect and address social inequities between and within communities, has never been clearer.

On 22 April 2020, New Zealand submitted a document entitled 'Communication and update of New Zealand's Nationally Determined Contribution', which made no change to the nation's NDC.[9] Instead, it said that the Government had sought recommendations from the Climate Change Commission (**Commission**) on 'whether the NDC should change to make it consistent with the global 1.5°C temperature goal and, if so, how'.[10]

This briefing sets out Oxfam New Zealand's recommendations for a fair and equitable updated 2030 NDC for New Zealand. First, it sets out the legal basis for considering equity and the principle of common but

differentiated responsibilities under the United Nations Framework Convention on Climate Change (**Convention**), the Paris Agreement, and the Zero Carbon Act.[11] Second, it applies and analyses different approaches to international climate equity. Third, based on these approaches, this briefing sets out recommendations for a 1.5ºC consistent target range for New Zealand's 2030 NDC. In doing so, it considers ways to ensure coherence with domestic emissions budgets under the Zero Carbon Act, and how the inclusion of non-mitigation elements in the NDC could further reflect equity.

NOTES

1 New Zealand 'Submission to the ADP: New Zealand's Intended Nationally Determined Contribution' *United Nations Framework Convention on Climate Change* (**UNFCCC**) (7 July 2015) <https://www4.unfccc.int/sites/submissions/INDC/Published%20Documents/New%20Zealand/1/New%20Zealand%20INDC%202015.pdf>.

2 This means that it is not necessarily possible or appropriate to directly compare New Zealand's NDC with targets set at a point year target not managed by an emissions budget. Source: New Zealand 'Submission to the ADP: New Zealand's Intended Nationally Determined Contribution' *United Nations Framework Convention on Climate Change* (**UNFCCC**) (7 July 2015) <https://www4.unfccc.int/sites/submissions/INDC/Published%20Documents/New%20Zealand/1/New%20Zealand%20INDC%202015.pdf>. See also Dominic Thorn, Robert McLean, and Roger Lincoln 'Scientific Analysis of Compatibility of the NDC with 1.5 degrees' *Ministry for the Environment* (5 February 2020) https://www.mfe.govt.nz/sites/default/files/media/Legislation/scientific-analysis-of-compatibility-of-ndc-with-1.5-degrees.pdf at 7.

3 New Zealand 'Submission under the Paris Agreement: New Zealand's Nationally Determined Contribution' *UNFCCC* (October 2016) <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/New%20Zealand%20First/New%20Zealand%20first%20NDC.pdf>.

4 Ed King 'New Zealand climate pledge a 'slap in the face' to Pacific islands' *Climate Home News* (7 July 2015) <https://www.climatechangenews.com/2015/07/07/new-zealand-climate-pledge-a-slap-in-the-face-to-pacific-islands/>.

5 Ministry for the Environment *New Zealand's Climate Change Target: Summary of submissions* (July 2015) <https://www.mfe.govt.nz/sites/default/files/media/nz-climate-change-target-summary-of-submissions.pdf>; Ministry for the Environment *New Zealand's Climate Change Target* (Discussion document, May 2015) <https://www.mfe.govt.nz/sites/default/files/media/Climate%20Change/climate-change-consultation-document.pdf>.

6 Intergovernmental Panel on Climate Change (**IPCC**) *Special Report: Global Warming of 1.5ºC* (8 October 2018) <https://www.ipcc.ch/sr15/>.

7 Climate Change Response (Zero Carbon) Amendment Act 2019 (**Zero Carbon Act**) <http://www.legislation.govt.nz/act/public/2019/0061/latest/LMS183736.html>.

8 UNFCCC, 'Adoption of the Paris Agreement (Decision 1/CP.21, FCCC/CP/2015/10/Add.1) <https://unfccc.int/resource/docs/2015/cop21/eng/10a01.pdf#page=2> at [23]-[24].

9 New Zealand 'Submission under the Paris Agreement: Communication and update of New Zealand's Nationally Determined Contribution' *UNFCCC* (22 April 2020) <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/New%20Zealand%20First/NEW%20ZEALAND%20NDC%20update%2022%2004%202020.pdf>.

10 Quote from New Zealand 'Submission under the Paris Agreement: Communication and update of New Zealand's Nationally Determined Contribution' *UNFCCC* (22 April 2020) <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/New%20Zealand%20First/NEW%20ZEALAND%20NDC%20update%2022%2004%202020.pdf>. For the referral to the Climate Change Commission itself, see: Letter from James Shaw (Minister for Climate Change) to Rod Carr (Chair of the Climate Change Commission) regarding biogenic methane and advice on New Zealand's first NDC (20 April 2020) <https://www.climatecommission.govt.nz/news/review-of-new-zealands-nationally-determined-contribution-and-biogenic-methane/>.

11 United Nations (**UN**) *United National Framework Convention on Climate Change* (1992, FCCC/INFORMAL/84) <https://unfccc.int/resource/docs/convkp/conveng.pdf>. For clarity, this briefing uses the word **Convention** to refer to the United Nations Framework Convention on Climate Change itself and the acronym UNFCCC to refer to the UNFCCC Secretariat and process established under the Convention.

1 LEGAL BASIS FOR CONSIDERING EQUITY

Principles of equity, sustainable development and common but differentiated responsibilities are integral to the Convention and Paris Agreement – and, consequently, embedded in the purpose of the Zero Carbon Act. This means the Climate Change Commission (**Commission**) should consider these principles in providing its advice both on the NDC and generally.

If the Commission does not do so, or the Government does not do so in considering the Commission's advice in updating the NDC and/or setting emissions budgets, there is a risk of judicial review or other litigation.

There is no way to provide advice on the NDC or emissions budgets without considering equity questions.[12]

The Convention expressly requires Parties to consider equity and differentiation. The Convention's ultimate objective is the 'stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system'. Article 3 provides that in acting to implement the Convention and achieve that ultimate objective, Parties '*shall* be' guided by five principles, including:[13]

- Article 3.1: Equity (including intra- and intergenerational equity) and common but differentiated responsibilities and respective capabilities
- Article 3.2: Full consideration of the specific needs and special circumstances of developing country Parties, and especially those who are particularly vulnerable to climate change; and
- Article 3.4: The 'right to … sustainable development'.

Commitments under the Convention are expressly common across all Parties – but differentiated based on Parties' different historical responsibilities and capabilities.[14] Notably, Article 3.1 expressly says that 'the developed country Parties should take the lead'. This is reflected in the reference to common but differentiated responsibilities in Article 4.1, and the further obligations undertaken by developed country Parties and Annex I Parties (including New Zealand) under Article 4.2.[15]

Those countries that have emitted more in the past and have more capacity to cut emissions must cut emissions more rapidly.

A breakthrough on differentiation provided a critical foundation for the Paris Agreement. The November 2014 US-China Joint Announcement on Climate Change endorsed a principle of common but differentiated responsibilities and respective capabilities, in light of different national

circumstances (**CBDRRCNC**).[16] This breakthrough was quickly adopted into the UNFCCC.[17]

Under the Paris Agreement, countries are to pursue efforts to limit warming to 1.5ºC – differentiated on the basis of equity.

The Paris Agreement itself is expressly built on equity. The preamble states that Parties are guided by both 'the principle of equity' and CBDRRCNC. It also recognises 'the specific needs and special circumstances of developing country parties', and especially climate vulnerable nations, as well as the connection between climate action and sustainable development.[18] The Agreement's aim of limiting warming to 'well below 2ºC' and 'pursuing efforts' to limit it to 1.5ºC is immediately contextualised with explicit reference to 'equity and CBDRRCNC.[19] Further, the Paris Agreement also aims to enhance climate finance for developing countries to be consistent with 'low greenhouse gas emissions and climate-resilient development'.[20] The mitigation component of each country's NDCs 'will represent a progression' in ambition, and 'reflect its highest possible ambition, reflecting [CBDRRCNC]'.[21] That is, the Paris Agreement expects developed countries to make greater contributions, because they benefitted from historical emissions of past industrialisation and have greater capacity (including wealth) to cut their emissions.[22]

The Zero Carbon Act incorporated these principles into New Zealand law.

New Zealand law requires both the Commission and the Minister to consider or apply these principles. The Zero Carbon Act added a new purpose to the Climate Change Response Act 2002 (**CCRA**): to 'provide a framework' for developing policies to 'contribute to the global effort under the Paris Agreement' to limit warming to 1.5ºC.[23] The CCRA appends the Convention and Kyoto Protocol, and the Climate Change Response (Emissions Trading Reform) Amendment Act 2020 appends the Paris Agreement.[24] Even before these amendments, the High Court held that powers and discretions conferred under the CCRA must be exercised in accordance with its purpose, which must be interpreted consistently with New Zealand's international obligations, including the Convention and Paris Agreement.[25]

New Zealand's decisions on our emissions budgets and targets (including the NDC) require an explicit consideration of equity: What is our fair contribution to the global effort?

In summary, each country's contribution must be differentiated, based on equity, sustainable development, historical responsibility, respective capabilities, and national circumstances.

This means that in setting targets and budgets, it is not enough to assume that New Zealand will decarbonise at the rate of the median country, directly following IPCC pathways. New Zealand's per capita emissions are now around 2.5 times the global average. We need to differentiate New Zealand's targets based on equity.

NOTES

[12] That is, failing to consider equity equates to applying the 'grandfathering' model (discussed in Part 3), which many commentators have argued is inconsistent with the Convention and Paris Agreement.

[13] United Nations (**UN**) *United National Framework Convention on Climate Change* (1992, FCCC/INFORMAL/84) <https://unfccc.int/resource/docs/convkp/conveng.pdf>, art 3. The other two principles are the precautionary principle and an open international economic system.

[14] For detailed discussion on this principle in the negotiations towards the Paris Agreement, see David Tong *Common in Durban but differentiated in Paris? Equity under the Durban Platform of climate negotiations* (29 May 2015) <https://www.academia.edu/33447000/Common_in_Durban_but_Differentiated_in_Paris_Equity_under_the_Durban_Platform_of_climate_negotiations> at 44-53.

[15] Notably, the preamble and Article 3.1 refer to 'common but differentiated responsibilities and respective capabilities', but Article 4.1 does not include the 'and respective capabilities' qualifier.

[16] 'U.S.-China Joint Announcement on Climate Change' *The White House* (Beijing, 12 November 2014) <https://obamawhitehouse.archives.gov/the-press-office/2014/11/11/us-china-joint-announcement-climate-change>.

[17] For a discussion of this incorporation, see Cleo Verkuijl 'Onwards and Upwards…? From Lima, to Geneva and Paris' *The Verb* (10 February 2015) <http://theverb.org/onwards-and-upwards-from-lima-to-genevaand-paris/>.

[18] UN *Paris Agreement* (2015) <https://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf>, preamble.

[19] UN *Paris Agreement* (2015) <https://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf>, Articles 2.1(a) and 2.2. Notably, the temperature limit is one of three purposes, alongside increased adaptation and climate finance.

[20] UN *Paris Agreement* (2015) <https://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf>, Article 2.1(c).

[21] UN *Paris Agreement* (2015) <https://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf>, Article 4.3.

[22] Robert B Gibson and others *From Paris to Projects* (January 2019) <https://uwaterloo.ca/paris-to-projects/sites/ca.paris-to-projects/files/uploads/files/p2p_full_report_23jan19.pdf> at 41.

[23] Zero Carbon Act, s 4.

[24] Climate Change Response Act, schedules 1, 2 and 2A. Schedule 2A is inserted by schedule 1 of the Climate Change Response (Emissions Trading Reform) Amendment Act 2020.

[25] *Thomson v Minister for Climate Change Issues [*2017] NZHC 733, [2018] 2 NZLR 160 at [88]. While the current and any future NDCs are not set under the Climate Change Response Act 2002 (*Thomson* at [101]), there are strong policy reasons for ensuring coherence between the NDC and emissions budgets set under the Act. Further, the Commission is constituted under the Zero Carbon Act, and Minister Shaw has referred this question to the Commission under s 5K of the Act. The Act draws no distinction in the factors that the Commission must consider in reporting to government under s 5K and in carrying out its other statutory functions. Therefore, while the NDC is itself technically not under the Act, the Commission's consideration of the NDC is.

2 APPROACHES TO CLIMATE EQUITY

Overview

To set a fair NDC for New Zealand, the Minister will need to confront questions of international distributive justice. When countries set their NDCs, they are putting implicit judgments into practice about how much of the remaining global emissions budget for 1.5ºC or 2ºC they will use themselves.[26] With a finite, rapidly shrinking remaining emissions budget, this is a zero-sum game.

To achieve the global objective of limiting warming to 1.5ºC – as enshrined in the Zero Carbon Act – if one country emits more than its fair share, another country must emit less.

One country's overuse means another is short-changed.

This section summarises five different international equity or burden-sharing models and considers what each could mean for New Zealand under different illustrative pathways.

These models are:

A. full grandfathering (which equates to assuming New Zealand is the median country, or that all countries decarbonise at the same rate)
B. an equal per capita sharing of remaining emissions
C. a population and overuse model.
D. the Climate Action Tracker model
E. the Climate Equity Reference Project model

This report considers these models in order from the least to most progressive. It begins with the approach recently used (though not endorsed) by the Ministry for the Environment,[27] then moves to models that add in different considerations of equity - from population, to capability, to historical responsibility - arriving at a conclusion of what a full fair share would look like.

Several of these models have been considered by the UK Committee on Climate Change.[28] The New Zealand Ministry for the Environment considered variants of some of these approaches in 2016.[29]

For brevity, the cumulative equal per capita model, the capacity-based approach, the Brazilian historical responsibility proposal, the equal post per capita model, and the contraction and convergence model have been omitted.[30] In a recent paper, Anderson, Broderick, and Stoddard (2020) also proposed a new model which could also be of interest to the

Commission, but it has not been considered here because insufficient data is readily available to apply it.[31]

Box 1: The IPCC pathways

The IPCC's Special Report on 1.5ºC considered a wide range of published scenarios and models for limiting warming to 1.5ºC or 2ºC. Most of the 1.5ºC scenarios involve the world temporarily warming to above 1.5ºC (that is, overshooting) at some point this century, but returning to 1.5ºC by the end of the century. All scenarios involve some net negative emissions.

The IPCC grouped the scenarios consistent with 1.5ºC into four categories: below 1.5ºC (5 models), low overshoot (37 models), no or limited overshoot (42 models), or a high overshoot (54 models).[32]

The IPCC Summary For Policymakers then set out four illustrative model pathways derived from these: P1 (no or low overshoot, without carbon capture and storage (**CCS**)), P2 (no or low overshoot, limited bioenergy CCS (**BECCS**)), P3 (no or low overshoot, high CCS/BECCS), P34 (high overshoot, high CCS/BECCS).[33]

Oxfam and most civil society organisations have real concerns about the high overshoot scenario, and overreliance on CCS. Therefore, we urge countries to aim to align decarbonisation with the P1 indicative pathway.

The 2030 emissions budgets used in this section are the medians of the no or limited overshoot scenarios and the high overshoot scenarios.

While the IPCC does consider possible illustrative pathways by gas, for simplicity and brevity, this analysis considers equity on the basis of an all-gases approach. Significant further analysis would be required to adapt these equity models to reflect a split gases approach, particularly given that the Zero Carbon Act separation of gases differs from that used in the IPCC illustrative pathways. It is also not entirely clear that different equity considerations apply to different short and long-lived gases.

A. Full grandfathering

The statement that global carbon emissions have to halve within the next decade, one of the simplified headline figures from the IPCC's Special Report on 1.5℃, is used frequently to convey the need for more ambitious action from the current global trajectory.[34] However, identifying where global emissions have to be in 2030 for a given IPCC indicative pathway and asking each country to get there assumes that all countries decarbonise at the same rate to achieve that goal.

This approach 'grandfathers' our emissions; rather than basing future emissions trajectories or budgets on principles of equity or sustainable development, this model bases New Zealand's share on our current high relative level of emissions. By this model, the more a country emits now, the more it gets to emit in future. Notably, New Zealand's current NDC is inconsistent with grandfathering for no or limited overshoot trajectories for 1.5ºC.[35]

	2030 global emissions ($MtCO_2e$)	2030 New Zealand grandfathered emissions		
		($MtCO_2e$)	Reduction from 1990 levels (%)	Reduction from 2005 levels (%)
IPCC no or limited overshoot	20300	27.0	57.6	66.8
IPCC high overshoot	29100	38.7	41.1	53.6

Table 5: Grandfathered 2030 emissions for New Zealand for IPCC pathways

Grandfathering has a systemic bias against developing countries.

At least for climate, most commentators have rejected grandfathering as having no defensible ethical basis.[36] It has been shown to have a strong systemic bias against developing countries.[37] It is sometimes used in studies that do not bother justifying their choices on ethical grounds,[38] or use it despite acknowledging that it has no ethically defensible basis.[39] The IPCC Fifth Assessment Report does not include 'grandfathering' as one of the 'effort-sharing approaches' nor list it as one of the 'equity principles'.[40]

Despite this, much New Zealand Government analysis in effect applies grandfathering in calculating whether existing targets are consistent with 1.5ºC.[41] The Ministry for the Environment has justified this (though explicitly not endorsed this approach) by arguing that other models are too contested or involve political considerations.

Not considering differentiation is equivalent to using grandfathering, which is inconsistent with the Convention and Paris Agreement.

However, this ignores the fact that using grandfathering to determine whether a given emissions target or budget is consistent with 1.5ºC itself depends on a highly political determination: that New Zealand's decarbonisation should be that of the median country (even though our per capita emissions are approximately 2.5 times the global average). This is worse than simply adopting a contested equity model; it is actively adopting a rejected model that is inconsistent with the Convention and the Paris Agreement.

Box 2: Comparing these numbers to New Zealand's NDC

New Zealand's current NDC is set using an emissions budget approach. That is, rather than assessing emissions at a single year (2030), progress towards and achievement of the target is measured by looking at the total emissions across the target period (2021-2030). This is consistent with how targets were set under the Kyoto Protocol.[42]

This emissions budget approach has advantages over a point years approach (which would compare emissions in only the target year to a baseline year). It means that achieving the NDC requires consistent action across the decade and avoids the possibility that a target could be met or

exceeded by a single outlier year.

Preliminary Government analysis suggests that New Zealand's emissions budget to meet its current NDC would be around 601Mt over the decade 2021-2030.[43] This has been calculated on the basis of a linear reduction from the previous target (5% off 1990 emissions by 2020, itself measured using an emissions budget approach over the period 2013-2020) to the NDC percentage target.[44]

We consider the percentage reduction targets for 2030 outlined here to be suitable for comparison to that in New Zealand's NDC. This is because each of the models considered in this paper depends on one or more IPCC illustrative pathways, and could alternatively be expressed as an emissions budget by totalling up the emissions from 2021-2030 under that pathway.[45]

B. Equal per capita sharing of remaining emissions

A second simplistic approach to determining New Zealand's share of emissions is to divide up the remaining emissions budget for 1.5ºC equally per capita worldwide, or to divide up the emissions reductions needed to meet a given trajectory for 1.5ºC.

At face value, there is an intuitive appeal in bringing emissions to equality per capita, giving each person the same emissions budget no matter the size or population of the country they live in.

However, simple equality per capita does not take into account historical responsibility, sustainable development, or respective capabilities and national circumstances. It is an overly simplistic model.

Equality is not equity.

That said, it is possible to calculate what New Zealand's equal per capita share of our remaining emissions budget would be for different temperature scenarios, based on our population in 2016 when the Paris Agreement was signed. Complexity arises in an emissions approach for short-lived gases, which do not necessarily need to reach net zero this century.

New Zealand's equal per capita share of global emissions would be 0.063%.

Our current emissions are around 2.5 times higher.

However, it is also possible to generate an estimate of an equal per capita 2030 NDC for a selected IPCC indicative emissions pathway: multiplying the 2030 global emissions for that pathway by the country's equal per capita share of the global emissions budget. Theoretically, it would also be possible to conduct this analysis using indicative pathways for different gases to more accurately reflect the role of long- and short-lived gases.

With a 2016 New Zealand population of 4.678 million and a 2016 global population of 7.442 billion, New Zealand's equal per capita share of global emissions would be 0.063%.[46]

	2030 global emissions ($MtCO_2e$)	2030 New Zealand equal per capita emissions		
		($MtCO_2e$)	Reduction from 1990 levels (%)	Reduction from 2005 levels (%)
IPCC no or limited overshoot	20300	12.8	79.9	81.3
IPCC high overshoot	29100	18.4	72.1	78.0

Table 4: Equal per capita 2030 emissions for New Zealand for IPCC pathways

That is, for New Zealand emissions to only reach our equal per capita share of an IPCC no or limited overshoot trajectory for 1.5ºC, we would need to cut our emissions by 80%. This does not factor in New Zealand's historical responsibility, respective capability, or national circumstances. It is a model for equality only, not equity – but the outcome is still confronting.

To only reach our equal per capita share of a no or limited overshoot 1.5ºC trajectory, we would need to cut emissions by 80%.

C. Population and overuse model

Some overseas civil society organisations have attempted to create an alternative equity model by combining the equal per capita model with a calculation to reflect a country's current overuse of its equal per capita share.[47]

That is, it calculates a country's share using the below formula:

S = A - (B - A)

In that formula:

- 'S' is the country's share
- 'A' is the country's equal per capita share of global emissions
- 'B' is the country's grandfathered share of global emissions.

In this model, the difference between the country's grandfathered share and equal per capita share ('B - A') serves as a proxy for estimating its current unfair use over and above its fair share.

	2030 global emissions ($MtCO_2e$)	2030 New Zealand population and overuse model emissions		
		($MtCO_2e$)	Reduction from 1990 levels (%)	Reduction from 2005 levels (%)
IPCC no or limited overshoot	20300	-1.4	102.1	101.7
IPCC high overshoot	29100	-2.0	103.0	102.3

Table 6: Population and overuse model 2030 emissions for New Zealand for IPCC indicative pathways

While this model has been used by some civil society organisations overseas, it does not take into account respective capabilities or national circumstances. At best, this model presents a very rough approximation of the emissions reductions needed on the basis of historical responsibilities, and to secure the right to sustainable development.

D. The Climate Action Tracker approach

The Climate Action Tracker attempts to balance seven effort-sharing models.

The Climate Action Tracker (**CAT**) is a partnership between Climate Analytics, the NewClimate Institute, and the Potsdam Institute for Climate Impact Research (**PIK**). Its effort-sharing model is essentially an aggregate model, attempting to balance seven different specific effort-sharing models, namely:[48]

- **responsibility**, where emissions reductions are determined by historical emissions
- **capability/need**, where emissions reductions are determined by economic capability
- **equality**, where emissions per capita converge to, or immediately reach, the same level for all countries
- **equal cumulative per capita emissions**, where emissions need to be reduced so that cumulative emissions per capita reach the same level
- **responsibility/capability/need**, as in the Climate Equity Reference Project (**CERP**) model, discussed below
- **capability/cost**, using equal costs or welfare loss per GDP as a basis (essentially a combination of mitigation potential and capability)
- **staged**, where countries take differentiated commitments in various stages, determined by indicators using many equity principles.

Critically, this differs from the CERP model in that domestic mitigation cost considerations (so national circumstances) are taken into account. Nevertheless, emissions trading and climate finance for developing countries may play a role in meeting shares set by the CAT model.

The CAT model and recommended fair shares exclude land use, land use change, and forestry (**LULUCF**) emissions, whereas New Zealand's NDC includes (and arguably depends on) forestry offsets. CAT fair shares are also point year targets, not emissions budget approaches.

There are arguably two 1.5ºC-consistent categories in the CAT analysis, namely:

- meeting a '1.5ºC Paris Agreement Compatible' standard, which equates to the CERP '1.5ºC standard' emissions trajectory
- meeting a 'Role Model' standard, which appears to be broadly comparable to the IPCC P1 indicative pathway.

	Annual emissions (excluding LULUCF) ($MtCO_2e$)	Reductions from 1990 levels (excluding LULUCF) (%)	Reductions from 2005 levels (excluding LULUCF) (%)
'1.5ºC Paris Agreement Compatible'	45.6	30.6	45.3
'Role Model'	24.1	63.3	71.1

CAT currently rates New Zealand's NDC as 'insufficient' and consistent with limiting warming to between 2ºC and 3ºC.[49]

Table 3: CAT benchmarks for New Zealand

These percentages are not directly comparable to our current NDC, however, as it includes LULUCF (the 2030 NDC target is a net target which is compared to gross baselines in 1990 and 2005, whereas CAT compares gross to gross).

There are strong ethical arguments against some of the effort-sharing models incorporated into the CAT model. As discussed earlier, per capita equality does not reflect the principles of the Convention or of the Paris Agreement. It is also not clear why the costs of domestic mitigation should be considered in a model that allows for international mitigation through international emissions trading or climate finance for developing countries.

Box 3: Why not count the domestic cost of mitigation?

Whereas the Zero Carbon Act emissions budgets are primarily domestic targets, NDCs can be met through internationally transferred mitigation outcomes under Article 6 of the Paris Agreement. Countries that face a high domestic cost of mitigation can therefore choose to meet their targets by paying for lower-cost mitigation overseas.

It is not logically consistent or equitable for a country to set a less ambitious international target citing its high cost of domestic mitigation, then aim to meet that target through international trading anyway. A high cost of domestic mitigation is at most relevant to setting domestic emissions reduction targets.

This is part of why we have not considered the equal cost between countries model. Additionally, it fails to consider the Paris Agreement principles of equity and differentiation.

E. The Climate Equity Reference Project model

The Climate Equity Reference Project's (**CERP**'s) model presents an effort-sharing approach built around core Convention and Paris Agreement principles, including a precautionary approach, CBDRRCNC, and the right to sustainable development.[50] In summary, CERP's model and its Climate Equity Reference Calculator (**Calculator**) draw together responsibility and capacity indicators, and macro-economic data, to develop a responsibility and capacity index (**RCI**) for each country. Several of the RCI inputs have multiple options, and users can also select a balance between responsibility and capacity. The Calculator

then uses the RCI to determine a national fair share of the difference between a baseline business-as-usual scenario and one of three user-selected emissions pathways.[51]

Importantly, 2030 national fair shares under this model do not necessarily equate to recommended NDCs or domestic reduction targets. Many Global North countries' 2030 or 2050 fair shares under this model amount to more than a 100% reduction, or net negative emissions. However, as the UK Committee on Climate Change has noted, these emissions reductions do not need to occur domestically: they can be achieved in part by paying for through overseas climate finance (not included in New Zealand's previous NDC) or international emissions trading (included in New Zealand's previous NDC).[52]

National fair shares do not equate to recommended NDCs or domestic reduction targets.

Box 4: Climate finance

Along with other developed countries, New Zealand is obligated under the Convention and Paris Agreement to provide financial support to developing countries to help them reduce emissions and adapt to climate change (called climate finance).[53]

Climate finance, particularly the provision of public financial resources, is to be 'scaled up' and represent a 'progression on previous efforts' to enable the mitigation and adaptation goals of developing countries under the Paris Agreement.[54] Indeed it is one of the conditions, alongside technology transfer and capacity building, that enables developing countries to implement and enhance the ambition of their NDCs.[55]

Climate finance differs from international offsets and carbon trading in that it cannot be counted towards the domestic mitigation measures of the country paying it.[56] But is a crucial part of achieving the overall aims of the Paris Agreement, including the ambition to keep warming within 1.5 degrees.[57]

Climate finance 'should aim to achieve a balance between mitigation and adaption'[58]. The mitigation component of climate finance could be used to complement New Zealand's domestic mitigation measures and contribute towards efforts to keep warming within 1.5 degrees, in conjunction with the appropriate adaptation finance.

In successive UN climate talks, New Zealand committed with other developed countries to helping mobilise a joint US$100 billion in climate finance by 2020, from a combination of public and private sources.[59] Oxfam estimates New Zealand's public finance share of this collective goal to be between NZ$423 million and $797 million per year.[60]

In 2018, New Zealand gave NZ$63.7 million in 'climate-specific' finance.[61]

		1.5ºC low energy demand (IPCC P1)			1.5ºC standard (CAT)		
		Reductions in 2030 below			*Reductions in 2030 below*		
Progressivity Approach	**Historical Responsibility Start Date**	**Baseline ($MtCO_2e$)**	**1990 levels ($MtCO_2e$)**	**1990 levels (%)**	**Baseline ($MtCO_2e$)**	**1990 levels ($MtCO_2e$)**	**1990 levels (%)**
Low	1850	79	55.9	86	70	47	72
	1950	75	51	79	66	43	66
	1990	79	55.9	86	64	40	62
Medium	1850	99	76	117	88	64.8	100
	1950	91	68	105	81	57.7	89
	1990	88	64.5	99	88	55	84
High	1850	110	87	133	98	74.6	115
	1950	97	73.2	113	86	62.6	96
	1990	93	70	108	83	59.7	92

Table 1: CERP benchmarks for New Zealand considering capacity and responsibility

		1.5ºC low energy demand (IPCC P1)			1.5ºC standard (CAT)		
		Reductions in 2030 below			*Reductions in 2030 below*		
Progressivity Approach	**Historical Responsibility Start Date**	**Baseline ($MtCO_2e$)**	**1990 levels ($MtCO_2e$)**	**1990 levels (%)**	**Baseline ($MtCO_2e$)**	**1990 levels ($MtCO_2e$)**	**1990 levels (%)**
Low	N/A	76	53	81	68	44	68
Medium	N/A	84	60.1	92	74	51	78
High	N/A	86	62.3	96	76	53	81

Table 2: CERP benchmarks for New Zealand considering capacity only

Based on this analysis, Oxfam New Zealand would argue that Aotearoa's national fair share should exceed 99% emissions reductions by 2030, as set out in all the scenarios for a low energy demand (IPCC P1 indicative pathway) 1.5ºC scenario with medium or high progressivity and any consideration of historical responsibility.

By this model, Aotearoa's national fair share would exceed 99% emissions reductions by 2030.

In our view, low progressivity scenarios or those that do not consider historical responsibility fail to provide for the right to sustainable development, the eradication of poverty, and realisation of human rights in developing countries – especially for Aotearoa's Pacific neighbours.

The CERP model is a strong, widely used approach to equitable burden-sharing. Since 2015, Oxfam has been a signatory to the Civil Society Reviews, which have each adopted a fair shares approach closely based on this model.[62] The CERP model has also been endorsed by numerous civil society organisations and social movements in the Climate Action Network (**CAN**) and Global Campaign to Demand Climate Justice. The UK Committee on Climate Change cited the CERP's predecessor, the Greenhouse Development Rights model, in their consideration of a net zero target for the UK.[63]

It may be arguable that the CERP model does not and could not fully incorporate each country's specific capabilities and national circumstances. The previous Government cited New Zealand's high baseline proportion of renewable electricity generation and high percentage of agricultural emissions as reasons why mitigation is less cost-effective in New Zealand.

However, while these factors are relevant in setting domestic targets and may, to some extent, be relevant in setting NDCs, they are not necessarily relevant to calculating fair shares of global effort. A high relative cost of domestic mitigation does not change a country's fair share, just how that country might choose to meet its fair share balancing between domestic reductions, potentially lower-cost international emissions trading and/or climate finance for developing countries.

Indeed, it is politically implausible that the Government would adopt a domestic 99% reduction target or top line mitigation target in its NDC for 2030, particularly given that this target exceeds the 2050 targets set out in the Zero Carbon Act.

However, an NDC does not need to only contain a single top line mitigation target. New Zealand could acknowledge in its NDC that its fair share demands much greater decarbonisation by 2030 than is domestically possible or cost effective, and could commit to supporting overseas action through emissions trading with ecological integrity and greatly enhanced climate finance to developing countries.

Climate finance for developing countries can play a role in New Zealand meeting its fair share of effort for 1.5ºC.

NOTES

[26] Robert B Gibson and others *From Paris to Projects* (January 2019) <https://uwaterloo.ca/paris-to-projects/sites/ca.paris-to-projects/files/uploads/files/p2p_full_report_23jan19.pdf> at 41-42.

[27] Dominic Thorn, Robert McLean, and Roger Lincoln 'Scientific Analysis of Compatibility of the NDC with 1.5 degrees' *Ministry for the Environment* (5 February 2020) https://www.mfe.govt.nz/sites/default/files/media/Legislation/scientific-analysis-of-compatibility-of-ndc-with-1.5-degrees.pdf at 5.

[28] Committee on Climate Change *Net Zero* (May 2019) <https://www.theccc.org.uk/publication/net-zero-the-uks-contribution-to-stopping-global-warming/> at 104-108. Note, however, that recent research argues that the UK's current mitigation targets may still amount to as much as twice its fair share of what's needed to achieve the Paris Agreement's objectives without highly speculative negative emissions technologies: Kevin Anderson, John F. Broderick & Isak Stoddard (2020) *A factor of two: how the mitigation plans of 'climate progressive' nations fall far short of Paris-compliant pathways*, Climate Policy, DOI: 10.1080/14693062.2020.1728209.

[29] 'Comparable effort analysis of New Zealand's post-2020 contribution' *Ministry for the Environment* (April 2016) https://www.mfe.govt.nz/sites/default/files/media/Climate%20Change/MfE%20research%20paper%20on%20comparability%20of%202030%20climate%20change%20target.pdf at 31. This is an unusual document. Though dated 2016, it appears to have been written prior to the Paris Agreement, as it does not cite the Paris Agreement, refers to the NDC as an INDC, and assesses only a 2ºC not 1.5ºC or well below 2ºC target. Further, it includes a cost benefit analysis of even meeting the 2ºC target – although New Zealand agreed to that target in Copenhagen and Cancun.

[30] This is because the first two of these are components of the Climate Equity Reference Project model, and the contraction and convergence model has widely fallen out of favour.

[31] Kevin Anderson, John F. Broderick & Isak Stoddard (2020) *A factor of two: how the mitigation plans of 'climate progressive' nations fall far short of Paris-compliant pathways*, Climate Policy, DOI: 10.1080/14693062.2020.1728209.

[32] V. Masson-Delmotte, P. Zhai, H. O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J. B. R. Matthews, Y. Chen, X. Zhou, M. I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, T. Waterfield (eds.), *Global warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty* (IPCC, 2018) at table 2.4.

[33] 'Summary for Policymakers' in V. Masson-Delmotte, P. Zhai, H. O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J. B. R. Matthews, Y. Chen, X. Zhou, M. I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, T. Waterfield (eds.), *Global warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty* (IPCC, 2018) at 16.

[34] IPCC Newsroom, Summary for Policy Makers of IPCC Special Report on 1.5℃ approved by governments, <https://www.ipcc.ch/2018/10/08/summary-for-policymakers-of-ipcc-special-report-on-global-warming-of-1-5c-approved-by-governments/>

[35] Ministry for the Environment *Scientific Analysis of compatibility of the NDC with 1.5 degrees* (5 February 2020) <https://www.mfe.govt.nz/sites/default/files/media/Legislation/scientific-analysis-of-compatibility-of-ndc-with-1.5-degrees.pdf> at 5.

[36] Simon Caney 'Justice and the Distribution of Greenhouse Gas Emissions,' *Journal of Global Ethics (*August 2009), vol 5, no 2, at 125–146.

[37] Sivan Kartha et al, 'Cascading Biases Against Poorer Countries,' *Nature Climate Change* (2018), vol 8, no 5, at 348–349.

[38] Michale R Raupach et al, 'Sharing a Quota on Cumulative Carbon Emissions,' *Nature Climate Change* (September 2014), vol 4, at. 873.

[39] Yann Robiou du Pont et al, 'Equitable Mitigation to Achieve the Paris Agreement Goals,' *Nature Climate Change* (2017), vol 7, at 38–43,

[40] Leon Clarke et al, 'Chapter 6: Assessing Transformation Pathways,' in *Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, (IPCC, Ed. Cambridge: Cambridge University Press, 2014) <http://mitigation2014.org/report/final-draft> and Marc Fleurbaey et al, 'Chapter 4: Sustainable Development and Equity,' in *Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, (IPCC, Ed. Cambridge: Cambridge University Press, 2014) <http://mitigation2014.org/report/final-draft>.

[41] See for example Ministry for the Environment *Scientific Analysis of compatibility of the NDC with 1.5 degrees* (5 February 2020) <https://www.mfe.govt.nz/sites/default/files/media/Legislation/scientific-analysis-of-compatibility-of-ndc-with-1.5-degrees.pdf> at 4.

[42] 'Measuring, reporting and accounting for our emissions' *Ministry for the Environment* <

https://www.mfe.govt.nz/climate-change/emissions-reduction-targets/about-measuring-and-reporting-emissions>.

[43] 'New Zealand's projected greenhouse gas emissions' *Ministry for the Environment* < https://www.mfe.govt.nz/node/25012/>; Dominic Thorn, Robert McLean, and Roger Lincoln 'Scientific Analysis of Compatibility of the NDC with 1.5 degrees' *Ministry for the Environment* (5 February 2020) https://www.mfe.govt.nz/sites/default/files/media/Legislation/scientific-analysis-of-compatibility-of-ndc-with-1.5-degrees.pdf at 2.

[44] The approach for turning percentage reduction targets into quantified emissions reduction and limitation objectives (QELROs) is outlined in the UNFCCC's *Issues relating to the transformation of pledges for emission reductions into quantified emission limitation and reduction objectives: methodology and examples*, FCCC/TP/2010/3/Rev.1 (4 November 2011). New Zealand's current target accounting emissions are already above the 2020 target, and will rise further in 2021 due to a change in accounting methodologies. The country's net and target accounting emissions are also projected to continue to rise for at least some of the early 2020s, rather than falling in a straight line from one target to another. This means that to actually meet the current NDC, emissions in the late 2020s and 2030 are highly likely to need to be below 30% off 2005 levels.

[45] The models considered in this paper would change the endpoint, but not the starting point for calculating an emissions budget for the period to 2030. Consequently, due to the circumstances outlined in endnote 44 above, the same factors that mean that New Zealand may need a greater reduction than 30% off 2005 levels to meet its current NDC emissions budget would still apply, and could require New Zealand to achieve even greater emissions reductions than set out here to achieve its fair share of limiting warming to 1.5ºC.

[46] Population figure taken from Statistics New Zealand, which closely aligns with World Bank data.

[47] This model does not appear to have been published. Consequently, while it has been used by some civil society organisations in recommending 'fair' NDCs overseas, it does not have a widely used name. We have termed it the population and overuse model, based on the two factors it takes into account.

[48] Climate Action Tracker *Comparability of Effort* <https://climateactiontracker.org/methodology/comparability-of-effort/>.

[49] Climate Action Tracker *New Zealand: Fair Share* (2 December 2019) <https://climateactiontracker.org/countries/new-zealand/fair-share/>.

[50] Climate Equity Reference Project *About the Climate Equity Reference Project Effort-sharing Approach* <https://climateequityreference.org/about-the-climate-equity-reference-project-effort-sharing-approach/>.

[51] Christian Holz, Eric Kemp-Benedict, Tom Athanasiou and Sivan Kartha (2019) 'The Climate Equity Reference Calculator' in *Journal of Open Source Software, 4* (35), 1273; Eric Kemp-Benedict, Christian Holz, Paul Baer, Tom Athanaisou, and Sivan Kartha (2019) *The Climate Equity Reference Calculator*. Berkeley and Somerville: Climate Equity Reference Project (EcoEquity and Stockholm Environment Institute) <https://calculator.climateequityreference.org>.

[52] Committee on Climate Change *Net Zero* (May 2019) <https://www.theccc.org.uk/publication/net-zero-the-uks-contribution-to-stopping-global-warming/> at 107.

[53] United Nations Framework Convention on Climate Change, article 4(3).

[54] Paris Agreement article 9(3) and (4).

[55] Paris Agreement, article 4(5).

[56] Paris Agreement article 6.

[57] Paris Agreement articles 2(1)(c), 3, and 4(5).

[58] Paris Agreement, article 9(4).

[59] Decision 2/CP.15 Copenhagen Accord, paragraph 7.

[60] This range is based on the OECD estimate of 2/3rds of the $100 billion goal coming from public finance. The calculation for New Zealand's share of this encompass a range of different allocations of responsibility and capacity among Annex I nations. A full Oxfam New Zealand policy briefing on New Zealand's fair share of climate finance is forthcoming.

[61] Ministry for the Environment, *New Zealand's Fourth Biennial Report* (December 2019), CTF Table 7, at 123. Calculating climate specific finance excludes core/general funding of multilateral institutions, much of which is untagged funding that cannot be fully attributed as climate finance.

[62] These reviews are the collaborative efforts of social movements, environmental and development NGOs, trade unions, faith and other civil society groups to assess the climate commitments put on the table through the UN climate negotiations. CSO Equity Review Coalition *Can Climate Change Fuelled Loss and Damage Ever be Fair?* (2019) <civilsocietyreview.org/report2019>; CSO Equity Review Coalition *After Paris: Inequality, Fair Shares, and the Climate Emergency* (2018) <civilsocietyreview.org/report2018>; CSO Equity Review Coalition *Equity and the Ambition Ratchet: Towards a Meaningful 2018 Facilitative Dialogue* (2017) <civilsocietyreview.org/report2017] [doi:10.6084/m9.figshare.5917408>; CSO Equity Review Coalition *Setting the Path Towards 1.5°C: A Civil Society Equity Review of Pre-2020 Ambition* (2016) <civilsocietyreview.org/report2016>; CSO Equity Review Coalition *Fair Shares: A Civil Society Equity Review of INDCs* (2015) <civilsocietyreview.org/report>; and CSO Equity Review Coalition *Fair Shares: A Civil Society Equity Review of INDCs: Summary* (2015) <civilsocietyreview.org/summary>.

[63] Committee on Climate Change *Net Zero* (May 2019) <https://www.theccc.org.uk/publication/net-zero-the-uks-contribution-to-stopping-global-warming/> at 107-108.

3 NEW ZEALAND'S FAIR SHARE AND OUR NDC

NEW ZEALAND'S FAIR SHARE

Depending on the model and indicative pathway chosen, New Zealand's contribution of the global effort to limit warming to 1.5ºC could range from as low as 41% to as high as 133% below 1990 levels.

New Zealand's current NDC target is not consistent with any safe 1.5ºC pathway, let alone one that considers equity.

Some of these models, however, can be discounted as inconsistent with New Zealand's legal obligations under the Convention and Paris Agreement. Full grandfathering and equal per capita sharing do not reflect principles of equity, sustainable development, respective capabilities, or historical responsibilities.

Further, we believe that the world should aim to limit warming to 1.5ºC with no or a limited overshoot and without over-reliance on speculative CCS technologies or BECCS. Even 1.5ºC of warming could push tens of millions of people into poverty.

"Politicians must aim for zero hunger as well as zero emissions. They must reject false solutions that divert land away from growing food and into producing crops and trees for energy and carbon capture." - Aditi Sen, Oxfam International senior climate policy advisor, 2019

The high overshoot models and some limited or no overshoot models depend heavily on net negative emissions beyond 2050. This reliance forces impossible trade-offs, requiring large scale deployment of CCS and/or converting huge areas of land to carbon farming for BECCS. The former is a planetary gamble on speculative technology. The latter could have significant adverse impacts on human rights, food security, poverty eradication, and the right to sustainable development – especially for some of the world's most structurally oppressed people and peoples, including Indigenous Peoples.[64]

Eliminating targets that are inconsistent with no or limited overshoot 1.5ºC pathways leaves a target range of 60% to 133% below 1990 levels. Eliminating targets that are inconsistent with a P1 indicative pathway would lead to even more stringent targets.[65]

New Zealand's fair contribution to the global effort to limit warming to 1.5ºC is no less than an 80% reduction from 1990 levels.

Several of the inputs into the CAT model reflect the domestic costs of mitigation. These are important in setting NDCs, but we suggest that they should not form part of assessing a country's fair contribution to the global effort, as that includes international emissions trading and climate finance to developing countries as means of meeting it (which are not changed by domestic costs of mitigation). Setting aside those inputs

leaves a target range of 80% to 133% below 1990 levels.

Past New Zealand governments have focused attention on the respective capabilities rationale for differentiation, rather than on historical responsibilities. If New Zealand aims to be a climate leader and stand with our Pacific neighbours, we must acknowledge our high historical emissions and the greater responsibilities they bring. That would amount to accepting a fair share of no less than a 99% reduction from 1990 levels by 2030.

New Zealand's historic emissions create a responsibility to do more. A fair share reflecting all aspects of equity is no less than a 99% reduction from 1990 levels.

TURNING THIS FAIR SHARE INTO AN NDC

Such a high 2030 target appears to be politically, socially and economically infeasible at the moment. Reaching net zero emissions within a decade would require a crash decarbonisation at odds with the principle of a just transition, and likely compromise New Zealanders' human rights.

It is also very unlikely that this would be the lowest cost or most efficient pathway to cut global emissions.[66]

However, as discussed, New Zealand's fair share does not equate to New Zealand's domestic target. That is, New Zealand will have several overlapping targets for 2030, as outlined below.

- One target is **the emissions cap** for the period ending 2030 in the New Zealand emissions trading scheme.
- That cap is a component of **the Zero Carbon Act emissions budget** ending 2030, which is a primarily domestic emissions reduction target (and which adopts a split gases approach for biogenic methane).
- That emissions budget may or may not be consistent with **New Zealand's NDC under the Paris Agreement**, which is a 2030 target including an international emissions target.
- That NDC in turn may be a component of **New Zealand's fair share for 2030**, which could be met with a combination of domestic mitigation, international offsets (via emissions trading or otherwise) and climate finance for developing countries.

A greatly enhanced NDC target can get closer to consistency with a safe 1.5ºC pathway, but won't represent our fair share.

Consequently, we urge the Commission and Minister to *acknowledge* New Zealand's fair share of effort for keeping warming to 1.5ºC, placing a central focus on the imperative of equitable efforts that reflect climate justice. That said, we recognise that Government will take a broader range of domestic factors into account in recommending and setting New Zealand's new NDC itself.

New Zealand's NDC must be greatly enhanced to reflect our maximum possible ambition, in light of equity, but may also consider our national circumstances. Consistency with Te Tiriti o Waitangi is critical, as is securing a just transition for working people and communities.

We also recognise that while New Zealand has a relatively high respective capability to cut its emissions as a wealthy, high-emitting country, we may have a lower capability to cut emissions than some

comparable countries due to our high proportion of agricultural emissions and high baseline renewable electricity. This would drive up the relative cost of domestic mitigation.

It is also important to consider the feasibility of implementing policy settings to achieve the NDC, particularly when considering its domestic mitigation component. The NDC should be coherent with the Zero Carbon Act emissions budgets.

This will result in a gap between our NDC and our acknowledged fair share. Climate finance for developing countries is included in our fair share, but not the mitigation component of our NDC. Consequently, we urge the Commission to call for, and the Minister to commit to, a rapid scaling up of our climate finance for developing countries to progressively close this gap to the greatest extent possible.

Scaled up climate finance for developing countries should be used to close as much of the gap between our NDC and fair share as possible.

Box 5: A split target for biogenic methane?

There have been suggestions that New Zealand should set split targets for biogenic methane emissions and other emissions.[67] This could enable a higher emissions reduction target for gases other than non-biogenic methane to be set, and appear closer to New Zealand's fair share. However, the Paris Agreement expects developed country Parties like New Zealand to set 'economy-wide absolute emissions reduction targets', and a split gas target is strictly not economy-wide.[68]

In addition, the 'Paris Rulebook' adopted in 2018 requires countries to report emissions on a 100 year Global Warming Potential (**GWP100**) basis.[69] While there is no rule requiring targets in NDCs to use an all gases GWP100 approach, setting a split gases target would mean that our reporting would have to be on a different basis to our target.

Further, alternative reporting measures, such as GWP*, raise significant equity concerns. While long- and short-lived gases do have very different climate impacts, direct application of GWP* to allow a constant flow of biogenic methane at (near) current levels essentially grandfathers existing methane emissions, giving rise to inequities.[70]

Attempting to reframe a target that at face value is not 1.5ºC-consistent as being so by splitting off biogenic methane targets is also likely to provoke negative international attention.

NON-MITIGATION COMPONENTS IN OUR NDC

New Zealand's previous NDC is very focused on our core contribution to global mitigation.

However, there is no textual basis in the Paris Agreement or related COP decisions for restricting NDCs to this sole focus. Article 3 of the Paris Agreement provides for NDCs, and explicitly refers to the articles that deal with adaptation, climate finance, technology transfer, and capacity-building for developing countries, and transparency, not just mitigation.[71]

New Zealand can therefore include climate finance for developing countries, adaptation strategies, public engagement, and supply side

measures in our NDC. This would allow for a more meaningful enhancement of our NDC, and for our NDC to more clearly show an attempt at achieving our fair contribution to the global effort.

NOTES

[64] The risks associated with CCS/BECCS have been acknowledged by the IPCC: V. Masson-Delmotte, P. Zhai, H. O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J. B. R. Matthews, Y. Chen, X. Zhou, M. I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, T. Waterfield (eds.), *Global warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty* (IPCC, 2018) at 124-125.

[65] V. Masson-Delmotte, P. Zhai, H. O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J. B. R. Matthews, Y. Chen, X. Zhou, M. I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, T. Waterfield (eds.), *Global warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty* (IPCC, 2018) at 112-113.

[66] Contrast with Ministry for the Environment *New Zealand's Climate Change Target* (Summary of submissions, July 2015) <https://www.mfe.govt.nz/sites/default/files/media/nz-climate-change-target-summary-of-submissions.pdf>.

[67] Compare Ministry for the Environment *Scientific Analysis of compatibility of the NDC with 1.5 degrees* (5 February 2020) <https://www.mfe.govt.nz/sites/default/files/media/Legislation/scientific-analysis-of-compatibility-of-ndc-with-1.5-degrees.pdf> at 6-8.

[68] UN *Paris Agreement* (2015) <https://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf>, art 4.4.

[69] UNFCCC, 'Modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement', Decision 18/CMA (2018), FCCC/PA/CMA/2018/3/Add.2, at [37].

[70] See Joeri Rogelj and Carl-Friedrich Schleussner 'Unintentional unfairness when applying new greenhouse gas emissions metrics at country level' (2019) *Environ. Res. Lett.* 14 114039.

[71] UN *Paris Agreement* (2015) <https://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf>, arts 3, 4, 7, 9, 10, 11, and 13.

This paper was written by Alex Johnston and David Tong. It is part of a series of papers written to inform public debate on development and humanitarian policy issues.

For further information on the issues raised in this paper please e-mail alex.johnston@oxfam.org.nz.

Published by Oxfam New Zealand in September 2020.
Oxfam New Zealand, Level 1/14 West Street, Eden Terrace, Auckland 1010, New Zealand.

OXFAM

Oxfam is an international confederation of 20 organizations networked together in 92 countries, as part of a global movement for change, to build a future free from the injustice of poverty:
Oxfam America (www.oxfamamerica.org)
Oxfam Australia (www.oxfam.org.au)
Oxfam-in-Belgium (www.oxfamsol.be)
Oxfam Brasil (www.oxfam.org.br)
Oxfam Canada (www.oxfam.ca)
Oxfam France (www.oxfamfrance.org)
Oxfam Germany (www.oxfam.de)
Oxfam GB (www.oxfam.org.uk)
Oxfam Hong Kong (www.oxfam.org.hk)
Oxfam India (www.oxfamindia.org)
Intermón Oxfam (Spain) (www.intermonoxfam.org)
Oxfam Ireland (www.oxfamireland.org)
Oxfam Italy (www.oxfamitalia.org)
Oxfam Mexico (www.oxfammexico.org)
Oxfam New Zealand (www.oxfam.org.nz)
Oxfam Novib (Netherlands) (www.oxfamnovib.nl)
Oxfam Québec (www.oxfam.qc.ca)
Oxfam South Africa (www.oxfam.org.za)
Kadın Emeğini Değerlendirme Vakfı (KEDV- Foundation for the Support of Women's Work, Turkey) (www.kedv.org.tr/)

Please write to any of the agencies for further information, or visit www.oxfam.org.

OXFAM