

1.5°C and our NDC

15 February 2021

Matthew Smith – Principal Analyst

James Renwick – Commissioner

Catherine Leining – Commissioner

Eva Murray – Principal Analyst



He Pou a Rangi
Climate Change Commission

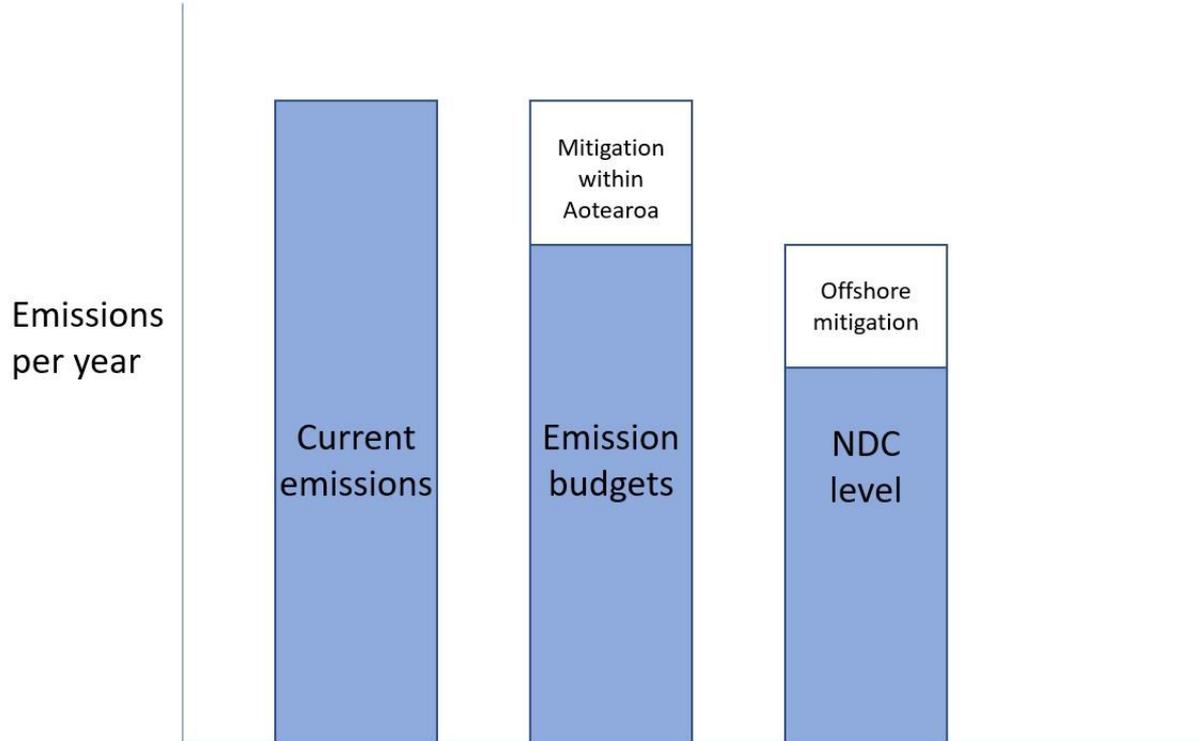
Agenda

- Introduction
 - Question we were asked
 - Our findings and recommendation
 - Questions
- Science of keeping to 1.5 degrees
 - Questions
- Our contribution to the global effort
 - Questions

Our NDC under the Paris Agreement

- Nationally Determined Contributions (NDCs) are each country's pledge to reduce emissions
- It is our international emissions target
- Our current target is to reduce net emissions to 30% below 2005 gross emissions levels by 2030

Our NDC can go beyond our emissions budgets



Our NDC under the Paris Agreement

- We were asked to assess whether our current target is compatible with contributing to limiting warming to 1.5 degrees
- Our analysis has found that Aotearoa's commitment to reduce net emissions by an average of 30% from 2005 emissions levels over the 2021-2030 period is not compatible with global efforts.
- If Aotearoa is to play its part as a developed nation, the NDC would need to be strengthened to represent reductions of much more than 35% below 2005 emissions levels by 2030.

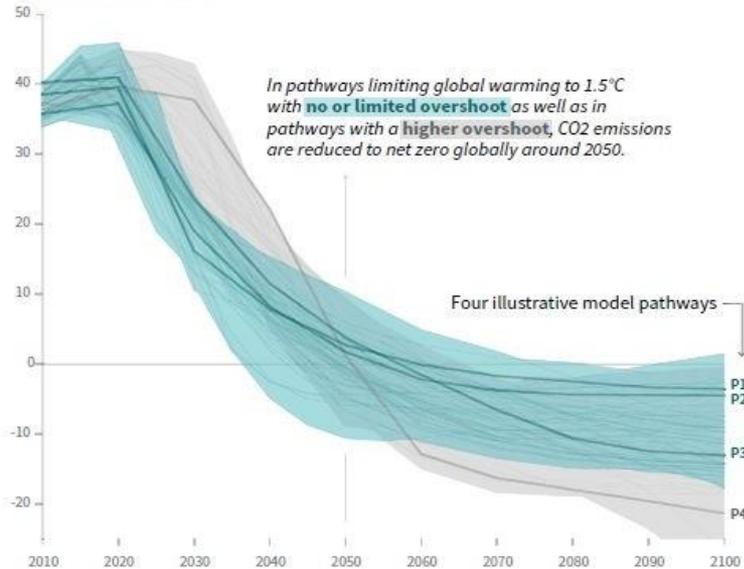
Science of 1.5°C compatible pathways

- We started with the IPCC's Special Report on 1.5 degrees
- Bring CO₂ emissions to net zero around 2050, to have a good chance of stopping warming at no more than 1.5°C
- Short-lived gases need to reduce, but do not need to get to zero so quickly
- Reaching net zero CO₂ earlier provides better certainty of keeping warming to 1.5°C

Global greenhouse gas reductions needed to limit warming to 1.5°C

Global total net CO₂ emissions

Billion tonnes of CO₂/yr



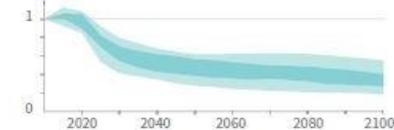
Timing of net zero CO₂:
Line widths depict the 5-95th percentile and the 25-75th percentile of scenarios.



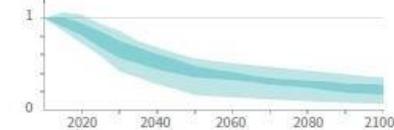
Non-CO₂ emissions relative to 2010

Emissions of non-CO₂ forcers are also reduced or limited in pathways limiting global warming to 1.5°C with no or limited overshoot, but they do not reach zero globally.

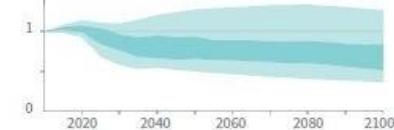
Methane emissions



Black carbon emissions



Nitrous oxide emissions



Applying the pathways to Aotearoa

- The IPCC modelling provided a range of reductions of different gases that could keep warming to 1.5 degrees
- We can apply these modelled pathways to Aotearoa to compare to our NDC.
- If we set the reductions of different gases as modelled by the IPCC as targets, what would our overall NDC look like?
- Our current NDC is at the lower effort end of the range applying this approach



Our compatibility with the 1.5°C goal

- The scenarios modelled by the IPCC have a 50-66% chance of keeping warming to 1.5°C
- Our judgement is that our NDC cannot be in the bottom half of the range of effort as this decreases the chance of keeping to 1.5°C
- As a developed country we cannot do less than is needed of the rest of the world

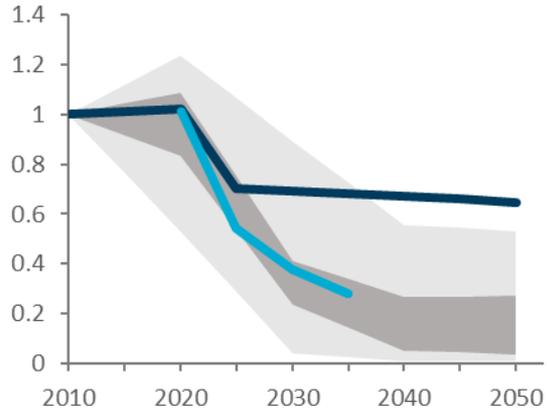


Our contribution to the 1.5°C goal

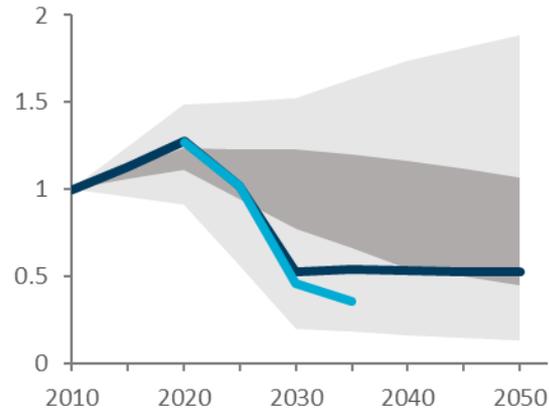
- How much further than 35% we go, depends on what you think a “fair share” for us should be.
- Our NDC goes further than our emission budgets do, by supporting other countries to reduce emissions
- How far we strengthen our NDC then depends on:
 - The tolerance for climate and reputational risks, and economic impact
 - Principles for effort sharing between countries

Our budget pathway compared to the IPCC 1.5°C pathways – coal, gas and oil

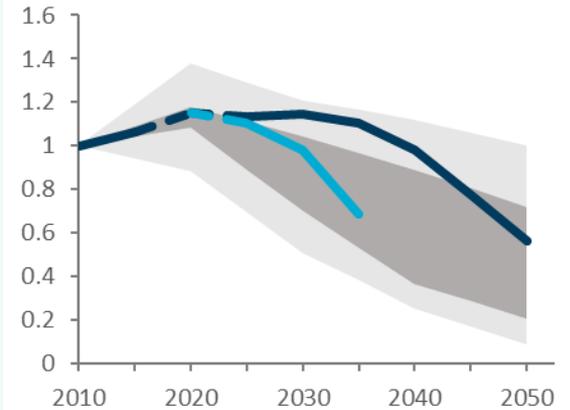
Coal primary energy



Gas primary energy

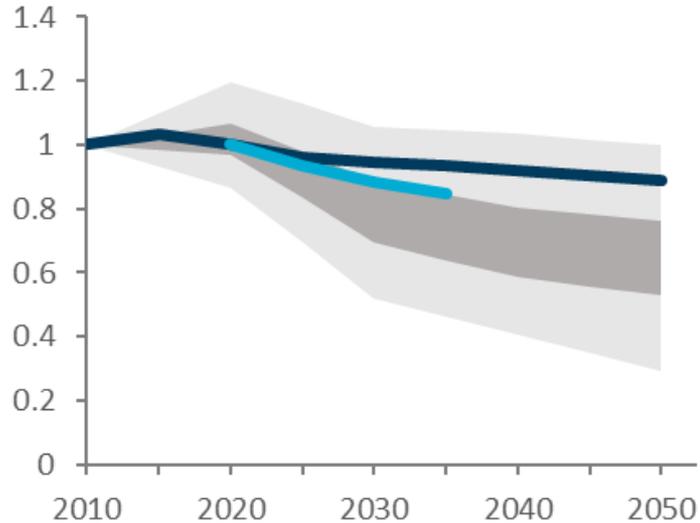


Oil primary energy

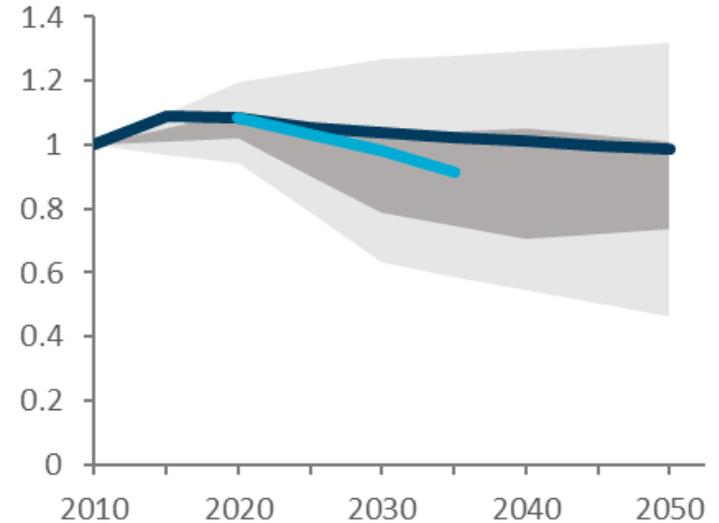


Our budget pathway compared to the IPCC 1.5°C pathways – methane and nitrous oxide

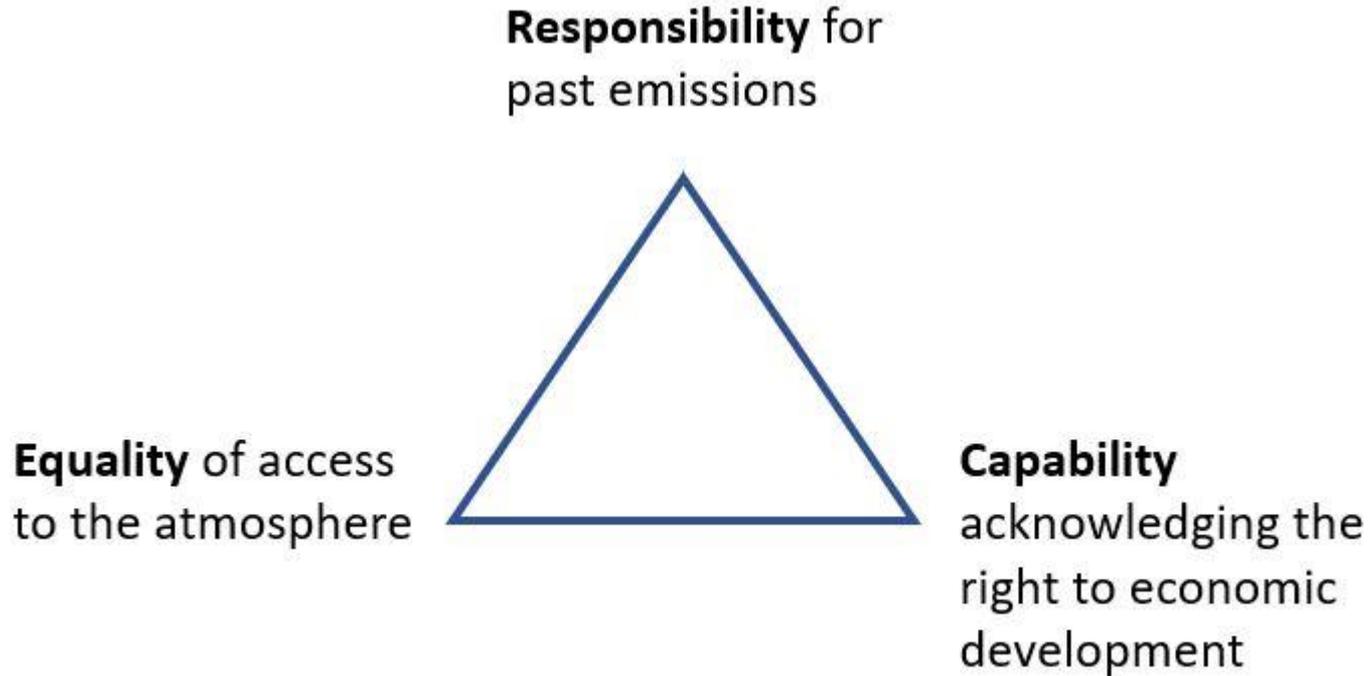
Agriculture methane



Agriculture nitrous oxide



Different principles for sharing effort between countries



A stronger NDC will require more offshore mitigation

NDC approach	Level allowed emissions (Mt CO₂e)	Implied offshore mitigation (Mt CO₂e)
2017 estimate of the first NDC	601	27
Latest estimate of the first NDC	585	43
Middle of the IPCC interquartile range	564	64
Upper end of the IPCC interquartile range	524	104

WHAT'S NEXT

- After our consultation period is finished, our team will make changes based on what we've heard and deliver the final advice report to government by 31 May 2021
- The government will then make decisions on emissions budgets and the emissions reduction plan to meet them by the end of 2021

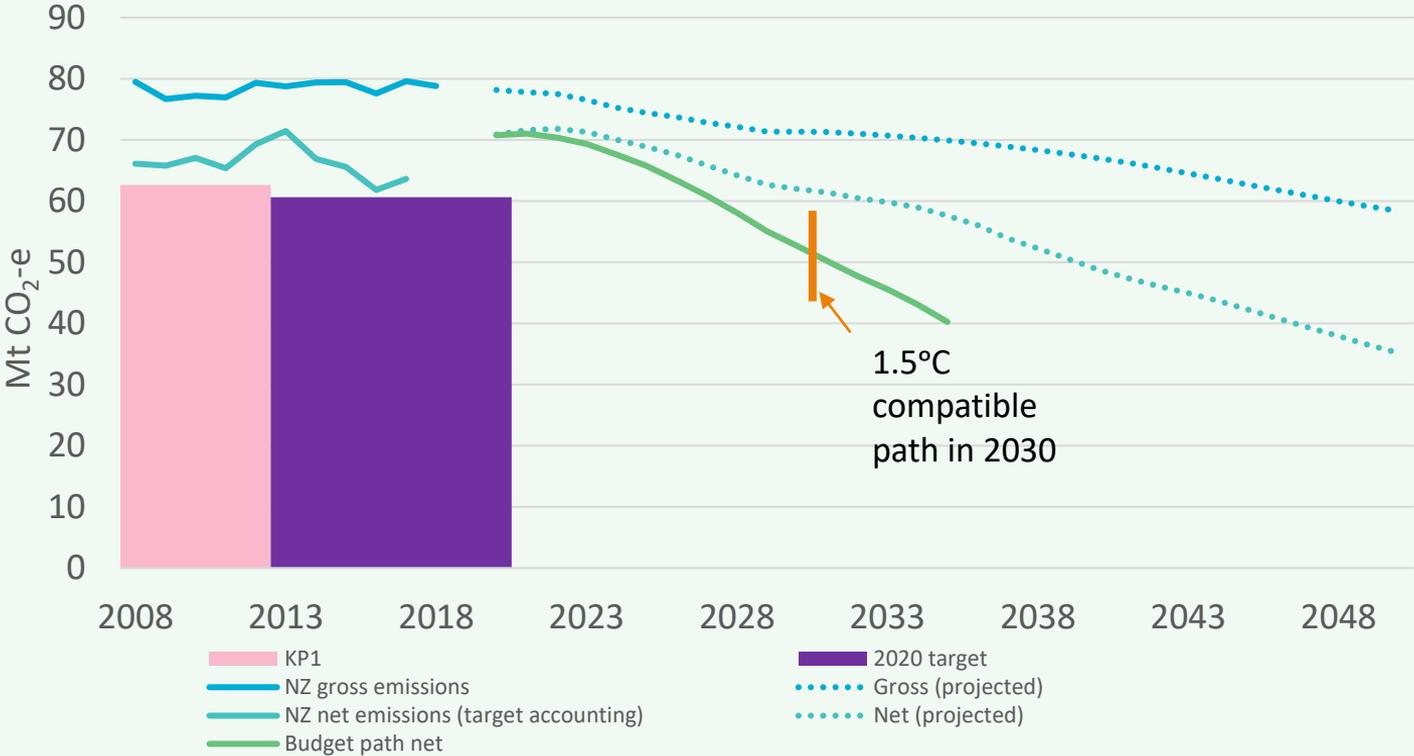
HOW TO SUBMIT!

OUR CONSULTATION RUNS FROM FEB 1 – MARCH 14

**HEAD TO [CLIMATECOMMISSION.GOVT.NZ](https://climatecommission.govt.nz) TO READ OUR ADVICE
AND SUBMIT YOUR FEEDBACK.**

**YOU CAN STAY IN THE LOOP ON OUR CONSULTATION VIA OUR
TWITTER [@CLIMATECOMMNZ](https://twitter.com/CLIMATECOMMNZ) AND LINKEDIN.**

NDC and emissions budgets



NDC and emissions budgets

