

## Submission Suggestions to Climate Commission.



**Where to get info:** <https://www.climatecommission.govt.nz/>

**Where to send it:** Climate Change Commission  
PO Box 24448  
Wellington 6142

Instructions and side comments in red. There is far more material here than you need. Choose what suits.

<https://haveyoursay.climatecommission.govt.nz/comms-and-engagement/future-climate-action-for-aotearoa/consultation/intro/>

**What you can use:** <https://ccc-production-media.s3.ap-southeast-2.amazonaws.com/public/Consultation-questions-CCC.pdf> Not compulsory

**By what date:** 28th March

**Why bother:** It is critically important that the Climate Commission(CC) and the Govt understand the level of farmer anger. Unfortunately, some farming leaders are accepting Methane is a problem and that new technologies will solve the issue. You are being let down by your reps, esp. DairyNZ & Beef and Lamb.

**What tone to use:** Anger/concern but not vitriol, personal attacks, etc.

**What not to do:** Do not copy this directly or any other material, word for word. Try to use at least some of your own arguments and wording. Sincerity counts, not perfection. Quote your own farm situation where it helps.

**What else to do?** Send this to contacts, friends and family and insist they make a submission.

**Why focus on Methane?** Methane reduction hurts farming the most. It is the easiest argument to present and win. Other CC recommendations on CO<sub>2</sub> emissions are important and damaging but more complex.

### **Suggested key arguments to use:**

1. Farmers are being asked to subsidise other emitters and bear more than their fair share of the costs
2. The Commission's position on methane is unscientific and unsupported by evidence.
3. Methane emissions are part of an age-old, natural cycle where New Zealand farmers are using as much Greenhouse Gas as they emit.
4. The measurement system for assessing methane's relative importance – the GWP 100 is unscientific, unjust and outdated.
5. Methane is too minute and insignificant to impact temperature
6. Article 2 of the Paris Accord is not being observed

These arguments are expanded on below – use what suits you.

## Key Arguments in Detail:

### 1. Farmers are being asked to subsidize other emitters

The Commission states that the methane reductions of the scale it proposes are only necessary to offset CO2 emissions which cannot be reduced quickly enough. In other words it proposes farmers reduce methane emissions to subsidize CO2 emitters. Farmers are an easier target than car owners.

The Commission recommends a harder target for methane than the Government required. It does so with no supporting scientific evidence.

The Commission proposes cuts to biogenic methane of 13.2% by 2030 and 15.9% by 2035. These targets are more than it is mandated to require in the Carbon zero Act of a 10% reduction by 2030.

The Commission recommends making farmers pay for livestock emissions as the method the Government uses to incentivize these emission reductions.

The Commission believes that animal methane emission reductions of 24% by 2050 are possible without new technology by farmers becoming better farmers than they are now. It believes farmers can achieve more efficiency by reducing stocking rates and inputs for the same level of production they get now.

However what the Commission overlooks is that for improving farm practices and efficiencies to do more than reduce emission intensity (emissions per kg product), as they have to date, and also reduce absolute emissions, this will require a limit or cap on farm production, otherwise the efficiency gains farmers make will just go in to more production and absolute emissions will not reduce. Farm efficiency gains so far have been significant and will continue, but farmers will not be able to convert those gains in to increased output, as they have been doing up until now and will have to be as profitable in thirty years' time off the same production they do now. How many farmers would be profitable if this year's production was the same as they did in 1990?

Emission reduction greater than 24% by 2050 will require technology that has not been invented yet and or a significant reduction in the size of the pastoral farming industry.

The Commission does not base its recommendations on the science of methane emissions and simply bases its recommendations on the targets set by the Government in the Carbon Zero legislation to reduce methane emissions by 10% by 2030 and between 24 and 47% by 2050.

The Commission states that the methane reductions of the scale it proposes are only necessary to offset CO2 emissions which cannot be reduced quickly enough. In other words it proposes farmers reduce methane emissions to subsidize CO2 emitters. There are three problems with this;

- Firstly it's not fair especially if farmers are going to be penalized financially to force them to subsidize CO2 emitters. If there is a legitimate scientific case to offset CO2 emissions with methane reductions, and this is questionable, then farmers should be paid to reduce emissions, not fined with taxes for not doing so. It is deeply concerning that the Commission advocates penalizing farmers if they do not reduce methane emissions so that CO2 emitters can continue to emit at a rate that is too high.
- Secondly, requiring farmers to reduce emissions to offset CO2 emissions gives the impression that the emissions farmers produce are causing global warming which can lead to unfair vilification of farmers and their products and to product resistance. The

Commission acknowledges that stable methane emissions as we have in New Zealand do not cause an increase in atmospheric greenhouse gas.

- Thirdly, the Commission and the Government state that methane emissions can not be offset by forestry removals because of its split gas approach. However if emissions of methane can not be offset by removals of CO<sub>2</sub>, then emissions of CO<sub>2</sub> should not be offset by reductions in methane. The Commission and the Government are contradicting themselves here and need to either change their stance on methane offsets with forestry or CO<sub>2</sub> offsets with methane. For further information see [section on forestry offsets](#).

## **2. The Commission's position on methane is unscientific and unsupported by evidence.**

The Commission has the capacity to give advice on a wide range of issues relating to climate change. It has made little attempt to recognise the evolving science in Greenhouse Gases (GHG). The irony is that science, generally, is based on continuous improvement. A theory is held on to only until a new, well researched and substantiated one emerges and is adopted. Science is never static.

The Commission and the Government are ignoring recent work on Greenhouse Gases, in particular methane that shows much less impact on temperature of all GHG's. There is now a large body of research showing that the GWP 100 formula is inaccurate. There is emerging science supporting the long held belief that water vapour dominates the other GHG's limiting their ability to make any impact on temperature. See Allison and Sheahan, Wijngaarten, Happer, Duffy and countless others who show conclusive evidence that any slight warming that may be attributable to GHG's is well and truly finished and adding more can not make any difference.

## **3. The natural cycle.**

Ruminant Methane is caused by livestock chewing their cud and belching the gas into the atmosphere. This emitted Methane (CH<sub>4</sub>) has a relatively short life with most transitioning into CO<sub>2</sub> and water vapour within 10 years or so. The claim that significant amounts of ruminant Methane last over many decades and therefore is capable of creating measurable amounts of warming is demonstrably absurd and has no basis in science.

Methane transitions into CO<sub>2</sub> and water vapour and is then available to be taken up by plants, trees, grass etc as a vital element in photosynthesis. It's a natural cycle. Without CO<sub>2</sub>, or even with low levels of CO<sub>2</sub> there would be no vegetation and no life.

1. It has been shown by an Auckland scientist, Dr Bradley Case that the typical NZ farm takes up almost more Greenhouse Gas as CO<sub>2</sub> than it produces as Methane just to maintain growth of trees, hedges, and scrub without factoring in grass and crops. Farms are a net carbon sink. We are not suggesting planting trees or allowing regeneration of scrub is an answer. It does however show farms are on the right side of the ledger.

2. Farming emissions are different to most other emissions because of this natural cycle. Emissions from the use of fossil fuels, for example, have no natural offset. Farmers should be rewarded, not penalised, for the amount of GHG they utilise. See Steinkamp et al(2017).

3. Those who buy farmland and plant trees to avail themselves of the fact that vegetation takes up CO<sub>2</sub> are applauded – even heavily subsidised – while livestock farmers get taxed for the very same natural process. Planting trees is an ill-conceived, short sighted policy as most trees end up in China as construction boxing and burnt inside two years returning the CO<sub>2</sub> to the atmosphere. It reduces our ability to grow our low carbon-footprint agricultural products.

4. It is important to note that NZ's livestock numbers have been stable for 10 – 12 years following the move from sheep and beef to dairying. Methane emissions in total have been stable and even falling over this period. No Additional Methane means there can be no additional warming.

If livestock numbers were to increase the amount of additional Methane would not be discernible or be measurable. A 5% increase in New Zealand's livestock would represent an increase of 5% of 1% (NZ's percentage of Global Ruminants) of the 15% of total Methane that is Ruminant Methane. That is impossible to measure or to claim as making a difference.

#### **The Counter argument to the “natural cycle”: (so you can deal with it in advance)**

Those who promote the argument that NZ's livestock are responsible for making a significant contribution to climate change claim that Methane is a very potent GHG and the emissions of past decades remain, in part, in the atmosphere for many decades creating problems.

The potency of Methane is massively overstated. The CO<sub>2</sub> and Methane molecules are very similar and from both a chemistry and physics respect undermining the theory of Methane's greater power. The theory behind Methane's potency is based on modelling, is tested in dry air in a lab and is subject to wide interpretation. Many leading physicists including Dr William Wijngaarten, Dr Will Happer, Dr Jock Allison, Dr Sheahen among many who are categorical in their dismissal of the “Methane is a very potent GHG”.

Methane's minute presence is a further argument against its potency. It is simply too insignificant in concentration to contribute to any temperature change.

The measurement method for assessing Methane's potency involves the GWP 100 formula which is patently wrong and overstates Methane's effects. It is outlined below.

**Note:** References to Methane are always made in tonnes or kilo tonnes as the numbers look foreboding. Rarely is Methane, particularly ruminant Methane ever referred to in percentages or as being hugely dominated by water vapour.

#### **4. The GWP 100 measurement system. Global Warming Potential (GWP)**

One of the most promising of the arguments that could be presented is the GWP 100 measuring system, currently in vogue, as it is thoroughly discredited by an increasing number of scientists and more accurate measurements are now available. The GWP 100 system was devised hurriedly by a few scientists back in 1990, responding to politicians' demand for a way of comparing GHG's. Despite the scientists insisting the comparison was an ‘apples and onions’ situation a makeshift theory was proposed and accepted by the politicians. The projected numbers were so dramatic the Green groups and other ‘warmists’ including a sensationalist media latched onto the theory and promoted it as factual.

The primary problem is the concocted numbers measure volume/capacity rather than apparent warming ability which renders the theory of little value and irrelevant.

Some of the scientists involved in having to devise a theory for the politicians have done more work over the last 30 years and have refined the formula more in line with reality. Their findings reduce the so-called effect of Methane by a massive 400%.

This means that the NZ Govt and the Climate Commission are overstating livestock's emissions by a factor of four. The claimed number for the amount of livestock emissions – 28 times the equivalent amount of CO<sub>2</sub> is now recognised as just 7 times. This alone reduces the need for the NZ livestock industry to zero – no action to reduce emissions is needed even under their reduction targets.

The new, refined formula is called GWP \*. Even this much reduced number is contrary to the views of many physicists who feel it still overstates the effect of Methane.

However, based on the notion that “politics is the art of the possible” if NZ’s farming interests could win a battle to have GWP 100 replaced by GWP \* that would represent a major victory and a worthwhile reduction of the liability facing agriculture.

The argument for this refined formula is powerful as it is based on evolving science – something the Government and the Commission say they subscribe to. Science is never “settled”. There are always new ideas, new theories and new findings that should and do replace earlier positions.

Farming leaders need to refocus their efforts away from trying to accede to the Commission's recommendations and a reliance on new technology to “save” the industry to fighting for the replacement of GWP 100 with GWP \*. They also need to seek international support for such a move from countries similarly affected by the unjust and unscientific GWP 100 formula. This could then lead to changes at IPCC level.

The irony is that science, generally, is based on continuous improvement. A theory is held on to only until a new, well researched and substantiated one emerges and is adopted.

In summary if there is to be a method for calculating the “warming ability” of Methane the Commission and the Government should use a methodology that is more accurate, more scientific, more up-to-date and more just.

## **5. Methane is too minor to have any effect.**

At 0.00018% of the atmosphere methane is a minor trace gas, overwhelmed by water vapour and to a small extent by CO<sub>2</sub>. This percentage is difficult to comprehend. By analogy it is like comparing half a small plastic bucket of water with the 2,500,000 litres in an Olympic swimming pool. If the whole of the atmosphere was a journey from Auckland to Los Angeles (10,000 kms) then Methane would be a small fraction of the pushback at Auckland Airport. It is minute.

Further, all ruminants only contribute 14% to 15% of the emitted Methane – rice paddies, swamps, landfills, etc contribute the balance. Try taxing rice paddies!!!

This reduces ruminant Methane's contribution percentage to the planet's atmosphere to 0.0000027% or a minuscule amount that no matter how potent the claims are about Methane it is utterly absurd to presume it is a “control knob” of the climate or even a minor influence.

Using the swimming pool analogy ruminant Methane's contribution is like adding one tenth of teaspoon to the 2.5 million litres and expecting to make a difference.

New Zealand has 1% of the world's ruminants and the Commission proposes cutting our ruminant Methane levels by 15%. Is there anyone out there who would seriously propose that the Commission's 15% of the 1% that is NZ's Methane, that is 14% of the planet's total Methane emissions multiplied by 0.00018% would be able to make a meaningful contribution to anything?

The world's temperature has risen about one degree over the last 150 years and it is generally claimed by "warmists" that Methane has been responsible for approximately 20% - 30% of the one degree of warming. The final equation for cutting our ruminant Methane emissions, for what is worth is.... ..  $15\% \times 1\% \times 14\% \times 0.00018\% \times 20\%$  of one degree. Beyond computation let alone reasoning.

## 6. Article 2 of the Paris Accord.

The Paris Accord is what our government signed up to. Clause 1 (b) in Article 2 says, "Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, **in a manner that does not threaten food production.**"

That is clear and unmistakable. It is even more crucial in New Zealand's case because our food is produced with the world's lowest carbon footprint and we are the most efficient economically. Any cutback in New Zealand will result in a country creating more GHG's.

The world is going to need a 50% increase in food supply to meet a burgeoning population. Putting our production at risk makes no sense. There is no doubt at all that a starving person will die. There is only a remote chance of dying from climate change.

### Some further points you may like to make:

#### ➤ Methane is dominated by water vapour.

Too many sources fail to acknowledge that the most prevalent Greenhouse Gas is water vapour. This appears to be deliberate in an attempt to dismiss the overwhelming role played by water vapour. On a typical New Zealand day Greenhouse Gas can be 96% water vapour, 3.76% CO<sub>2</sub> and 0.2% Methane.

Greenhouse Gas molecules interact with out-going radiation causing countless collisions and re-radiation in all directions. Obviously at 96% the dominant GHG is always water vapour. When an additional amount of CO<sub>2</sub> or Methane enters the atmosphere there can only ever be a minuscule difference.

To use a crude but telling analogy if there are two teams on the field and one side has 10,000 players and the other just two adding another player or doubling their team is not going to make a scrap of difference. Further if the side with two players were Jonah Lomu's on steroids it would also not make one iota of difference if two more appeared. Unfortunately common sense is missing in this whole climate change debate.

Here is a breakdown of the Greenhouse Gases:

Greenhouse Gas	Formula	Parts per million of air	% of GHG's	% of atmosphere
Carbon dioxide	CO <sub>2</sub>	406	3.88%	0.04%
Methane	CH <sub>4</sub>	1.79	0.02%	0.00%
Nitrous Oxide	N <sub>2</sub> O	0.3	0.00%	0.00%
Ozone	O <sub>3</sub>	0.04	0.00%	0.00%
Water Vapour	H <sub>2</sub> O	10,000	96.08%	0.96%

#### Approximate Atmospheric composition in New Zealand (Water Vapour at 1.5%)

Order	GAS	Part per Million ppm (Dry Air Basis)	% by Volume (Moist Air Basis) (1.5% Water Vapour)	Greenhouse Gas??	Helpful analogy Equivalent litres in 2,500,000 litre Olympic Pool
1	Nitrogen	780,840	76.9%	No	1,922,500
2	Oxygen	209,450	20.63%	No	515,770
3	Water Vapour	0	1.48%	Yes	37,000
4	Argon	9,340	0.92%	No	23,000
5	CO <sub>2</sub>	415	0.041%	Yes	1,025
6	Neon	18	0.0018%	No	45
7	Helium	5	0.0005%	No	12
8	Methane	1.8	0.00017%	Yes	4.3

- Economic affects. There are a range of economic assessments on the cost of meeting the Paris Accord targets. It is abundantly clear that there has been no comprehensive study carried out on the economic costs of the impact of the proposed measures. This is a disgrace. No government or business should undertake a programme of changes of such magnitude without careful and professional analysis and cost benefit considerations.
- NZ is a carbon nett sink. Our trees, natives and exotics, our pasture and soils, scrub and bush use much more Greenhouse Gas than we produce.
- Issues besides Methane. It has been estimated by Professor Michael Kelly, a NZ born scientist from the UK that to meet the demand of electric vehicles that the country's generation capacity will need to be doubled, the entire transmission system duplicated and existing wiring between transformers and building switchboards replaced. This is going to mean massive increases in electricity prices. This is confirmed by Germany's electricity prices increasing by 300% since they began the move to EV's.
- Farmers should be aware that diesel and petrol prices will increase steadily over the next few years as the carbon price rises and oil companies face lower profits from fewer outlets. Those properties any distance from a centre will face significant price increases. It has been estimated diesel could reach \$7.00 a litre at least.

- The Climate Commission have ignored and over-ridden the work of the He Waka Eke Noa agreement, a collaborative effort with farmers.
- Many of the figures and facts used are presented as being accurate and beyond contradiction. This is deceptive. Many “facts” are assessments, even ‘guestimates’. For example, the figures used to measure the amount of ruminant Methane is impossible to know accurately and has a +/- factor of **55.3%**. This makes a mockery of trying to reduce Methane levels by 15%.
- The use of the word “carbon” to cover carbon dioxide and other Greenhouse Gases is a deliberate attempt to “blacken” the terms and convey negativity.
- Carbon dioxide (CO<sub>2</sub>) is essential plant food and increased levels have led to the greening of the earth and increased crop and food yields – something the world should extol.
- Clouds and water in its various forms dominate the atmosphere yet very little is understood about their actions and effects. It is arrogant to claim the CO<sub>2</sub> is the main control knob.

