Greenpeace Submission to the Methane Review Panel on the Review of Methane Science and Target

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Introduction

Thank you for the opportunity to input into the review of methane science and target.

Given that nearly half of New Zealand's greenhouse gas emissions come from agriculture, the main source of which is methane from the livestock sector, it is imperative for methane emission reduction to occur in this sector in order for New Zealand to achieve its climate commitments under the Paris Agreement.

The Paris Agreement is our roadmap for a livable future for our children and grandchildren. Because climate change is truly an existential crisis, it requires all nations to do their part. Honouring our commitments to the Paris Agreement is essential if we are to avoid catastrophic impacts on our homes, health, livelihoods, critical infrastructure and ability to grow food. It is an obligation we have to future generations both here in Aotearoa New Zealand, in our neighbouring Pacific and across the Earth. The advice you provide in your report to the Government will inform our targets under the Paris Agreement. It will make or break our commitments. Our children's future is in your hands.

We are therefore very concerned that the Panel's terms of reference explicitly require that our methane targets be reviewed in line with "no additional warming"

as this would seriously undermine the Paris Agreement and climate action more generally.

The concept of "no additional warming" is related to the model known as Global Warming Potential* (or GWP* for short). While GWP* can be a useful tool to track methane emissions variations over shorter timescales and to differentiate its impacts with longer-lived emissions, climate **scientists have warned against its use as a metric to inform policies and mitigation actions corresponding to specific emission reduction targets** for a number of reasons. Drawing from this scientific advice, we summarise our key concerns in this short submission under the following headings:

1. Lowering climate ambition at the expense of the Paris Agreement
2. Potential associated breaches of trade agreements

We also provide a bibliography of references to scientific articles raising concerns about GWP*, which we encourage the Panel to go through in detail to inform your advice.

We would appreciate the chance to meet with you to discuss these concerns further.

Lowering climate ambition at the expense of the Paris Agreement

Instead of reducing emissions, a methane target consistent with **"*no additional warming*" redefines the goal of climate action as simply stabilising emissions at current levels**. This essentially "builds in" an expectation of continued high levels of anthropogenic methane emissions. But concentrations of methane in the atmosphere are currently around 2.5 times greater than pre-industrial levels and rising, and we urgently need to ***cut*** methane emissions: the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment report unambiguously advises that we need to make swift reductions in methane pollution as a critical step to slow temperature rise and avoid potentially catastrophic tipping points. The correct "baseline" for metrics, therefore, should be a baseline of not emitting.

As pointed out by the Climate Change Commission, adopting the "no additional warming" concept would lead to a weakening of the methane components of the

target, although there is "*no evidence to support weakening the current 2050 target, and enough to consider strengthening it*".

Lowering Aotearoa New Zealand's climate ambitions would in itself seriously compromise commitments made under the Paris Agreement to reduce our climate footprint as an individual country. It also raises serious concerns about duty to others. Using GWP* can lead to inequitable conclusions, putting most developing countries at a disadvantage compared to developed countries, because when using *GWP** countries with high historical emissions of short-lived GHGs are exempted from accounting for avoidable future warming that is caused by sustaining these emissions. Equity is at the heart of Article 4 of the Paris Agreement. GWP* essentially ignores these differences between countries. Setting policy and targets using these calculations would be unfair, unequal, and unethical.

Furthermore, reinterpreting New Zealand's methane target from GWP100 to GWP* would undermine the integrity of the Paris Agreement as a whole. GWP100 is commonly adopted by all Parties to the Paris Agreement. At best, adopting GWP* in New Zealand would make comparison with other countries' Nationally Determined Contributions virtually impossible and undermine our ability to track global progress towards emission reduction. At worst, it would open up the floodgates for other high emitting countries to adopt GWP*. Scientists have found that interpreting the Paris Agreement goals in a metric like GWP* can lead to profound inconsistencies in the mitigation architecture of the Agreement and could even undermine the integrity of the Agreement's mitigation target altogether by failing to deliver net-zero emissions and therefore failing to ensure warming is halted.

Potential associated breaches of trade agreements

As demonstrated above, adopting the concept of "no additional warming" and weakening existing national methane reduction targets could undermine commitments under the Paris Agreement. **This is likely a breach of the EU-NZ FTA Article 19.6(2)-(3) which commits Parties to effectively implement the United Nations Framework Convention on Climate Change and the Paris Agreement** including commitments with regard to nationally determined contributions, which includes the obligation to refrain from any action or omission that materially defeats the object and purpose of the Paris Agreement.

In general, several of our free trade agreements require no weakening of climate and environmental protections. ENGOs have already produced one analysis of how environmental rollbacks will affect the NZ-UK trade agreement and another analysis, which specifically looks at how the *Fast-Track Approvals Bill* would affect trade agreements, including the NZ-EU FTA, NZ-UK FTA and the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP). These detailed analyses contain relevant concerns in the context of reviewing Aotearoa New Zealand's methane target.

New Zealand's environmental rollbacks have already been raised in the UK Parliament due to concern that they would impact New Zealand's commitments under the UK-NZ FTA. MFAT has also recently advised the Government that its decision to repeal the ban on offshore oil and gas exploration has opened New Zealand up to reputational and legal risks with its trading partners. We encourage the Panel to review New Zealand's commitments in these trade agreements and the implications of changing our methane target in line with "no additional warming" in order to inform your recommendations to the Government.

Key References and quotes from the scientific literature

Rogelj, J. and Schleussner, C. F. (2019) Unintentional unfairness when applying new greenhouse gas emissions metrics at country level. Environmental Research Letters, 14(11): 114039.
https://iopscience.iop.org/article/10.1088/1748-9326/ab4928

"Comparison factors for non-CO_2 GHGs under the GWP metric depend on past emissions, and hence raise questions of equity and fairness when applied at any but the global level. The use of GWP* would put most developing countries at a disadvantage compared to developed countries, because when using GWP* countries with high historical emissions of short-lived GHGs are exempted from accounting for avoidable future warming that is caused by sustaining these emissions. We show that when various established equity or fairness criteria are applied to GWP* (defined here as eGWP*), perceived national non-CO_2 emissions vary by more than an order of magnitude, particularly in countries with high methane emissions like New Zealand."*

Hayek, M. N., Samuel, J. and McClelland, S. C. (2023) Methane metrics: the political stakes. Nature, 620(7972): 37.
https://www.nature.com/articles/d41586-023-02435-6

Schleussner, C. F., Nauels, A., Schaeffer, M., Hare, W. and Rogelj, J. (2019) Inconsistencies when applying novel metrics for emissions accounting to the Paris agreement. Environmental Research Letters, 14(12): 124055.
https://iopscience.iop.org/article/10.1088/1748-9326/ab56e7/meta

"*We show that interpreting the Paris Agreement goals in a metric like GWP* that is significantly different from the standard metric used in the IPCC Fifth Assessment Report can lead to profound inconsistencies in the mitigation architecture of the Agreement. It could even undermine the integrity of the Agreement's mitigation target altogether by failing to deliver net-zero CO_2 emissions and therewith failing to ensure warming is halted. Our results indicate that great care needs to be taken when applying new concepts that appear scientifically favourable to a pre-existing climate policy context.*"

Climate Analytics (2019) Greenhouse gas accounting metrics under the Paris Agreement: A cautionary tale of the implications of applying novel scientific concepts to an existing policy content.
https://climateanalytics.org/media/gwp_star_briefing_final.pdf

Meinshausen, M. and Nicholls, Z. (2022) GWP* is a model, not a metric. Environmental Research Letters, 17(4): e041002.
https://iopscience.iop.org/article/10.1088/1748-9326/ac5930

Shindell D, Sadavarte P, Aben I, Bredariol TdO, Dreyfus G, Höglund-Isaksson L, Poulter B, Saunois M, Schmidt GA, Szopa S, Rentz K, Parsons L, Qu Z, Faluvegi G and
Maasakkers JD. The methane imperative. Front Sci (2024) 2:1349770. doi: 10.3389?fsci.2024.1349770

"One could evaluate the contribution of emissions relative to preindustrial levels using GWP, which would show the large warming impact of present-day methane emissions. However, some countries and companies have used GWP* to suggest that since keeping current methane emissions constant does not add additional future warming, continued constant high levels of methane emissions are therefore not problematic and a reduction of*

their methane emissions is equivalent to CO_2 removal. This use of GWP to justify the continuance of current emission levels essentially ignores emissions responsible for roughly half the warming to date and appears to exempt current high methane emitters from mitigation. This is neither equitable nor consistent with keeping carbon budgets within reach. Many current high emitters are wealthy groups, and the use of GWP* to evaluate changes relative to current levels implies the wealthy consuming or profiting from a large amount of methane-emitting products (such as gas, oil, or cattle-based foods) has no impact, whereas the poor, who currently consume little, would be penalized for consuming more. Policymakers should also consider impacts beyond climate when choosing policies affecting methane."*

Ocko, I.B., Sun, T., Shindell, D., Oppenheimer, M., Hristov, A.N., Pacala, S.W., Mauzerall, D.L., Xu, Y. and Hamburg, S.P. (2021) Acting rapidly to deploy readily available methane mitigation measures by sector can immediately slow global warming. Environmental Research Letters 16(5): 054042. **https://iopscience.iop.org/article/10.1088/1748-9326/abf9c8**

Reisinger, A., Clark, H., Cowie, A.L., Emmet-Booth, J., Gonzalez Fischer, C., Herrero, M., Howden, M. and Leahy, S. (2021) How necessary and feasible are reductions of methane emissions from livestock to support stringent temperature goals?. Philosophical Transactions of the Royal Society A, 379(2210): 20200452. **https://royalsocietypublishing.org/doi/10.1098/rsta.2020.0452**

Reducing emissions from the livestock sector now

Livestock is the single biggest source of human-made methane. Reducing methane associated with meat and dairy is therefore a critical lever that will influence how quickly or slowly the world heats up in the near-term. Methane is a superheating gas, around 80 times more potent than carbon dioxide over a 20 year period. But it is relatively short lived, which means, if we drastically cut methane emissions now, we can pull the climate emergency brake and can have an immediate effect on slowing temperature rise in our lifetimes.

It is possible to make significant cuts in livestock methane right now by stopping meat and dairy expansion and reducing herd sizes. We don't need to, and don't have time to, wait for silver bullet technological breakthroughs. With the right policy settings, farmers can be supported now to transition to more plant-based and

ecological farming methods that use fewer inputs and sustain smaller herds. This would have many co-benefits for animal welfare, freshwater health, air quality and human health. Furthermore, this is increasingly what customers both here in Aotearoa and overseas want, and expect from food producers.

As a recent investigation by Changing Markets Foundation revealed, the livestock industry has been very effective at delaying policy intervention to reduce emissions from the meat and dairy sector, both here in Aotearoa New Zealand and globally. We encourage the Panel to review their report and the following three international Greenpeace reports to provide a counter-perspective to that of the industry:

- Turning Down the Heat: Pulling the climate emergency brake on big meat and dairy (with a special focus on methane)
- Less Is More: Reducing meat and dairy for a healthier life and planet
- Ecological Farming: The seven principles of a food system that has people at its heart