

Appendix One: Draft Cabinet paper – Announcing the Methane Science and Target Review

IN-CONFIDENCE

Office of the Minister of Agriculture

Office of the Minister of Climate Change

Cabinet Economic Policy Committee

Announcing the Methane Science and Target Review**Proposal**

- 1 We propose to publicly announce a review of the methane science and biogenic methane target for consistency with no additional warming from agricultural methane emissions.

Relation to government priorities

- 2 This supports the National - ACT coalition agreement commitment to “maintain a split-gas approach to methane and carbon dioxide through to 2050 and review the methane science and targets in 2024 for consistency with no additional warming from agricultural methane emissions”.

Background

- 3 In 2019, the Climate Change Response Act 2002 (CCRA) was amended to set New Zealand’s domestic climate change targets for 2050. These targets are split by greenhouse gas type, with a separate target for biogenic methane¹ reduction and a net zero goal for all other greenhouse gases.
- 4 The legislated target requires that “emissions of biogenic methane in a calendar year” are:
 - 4.1 ten percent less than 2017 emissions by the year beginning 1 January 2030; and
 - 4.2 24 to 47 percent less than 2017 emissions by the calendar year on 1 January 2050 and for each subsequent year.
- 5 This year the Climate Change Commission (the Commission) is undertaking a review of the 2050 targets (including biogenic methane targets as required by the Climate Change Response Act). The Government must respond to this advice within 12 months.

¹ Under the CCRA, biogenic methane is defined as all methane greenhouse gases produced from the agriculture and waste sectors (as reported in the New Zealand Greenhouse Gas Inventory). The agriculture sector produces approximately 91 percent of gross annual biogenic methane emissions in New Zealand. The remaining 9 percent is from the waste sector.

- 6 The Commission will:
 - 6.1 launch public consultation on its review of the 2050 target on 8 April 2024; and
 - 6.2 provide its final advice to the Minister of Climate Change by 31 December 2024.
- 7 Due to the Commission's independence, we do not know to what extent no-additional warming and review of the methane science will feature in its draft advice.
- 8 This is why it is important that we initiate an independent review of the methane science and target for consistency with no additional warming. Our trade partners, the international community and New Zealanders expect the agriculture sector to contribute to our climate change targets. However, we need to ensure that:
 - 8.1 the agriculture sector's contribution to our climate change targets is fair and appropriate compared to other parts of the economy; and
 - 8.2 any domestic efforts to bring down emissions support our farmers to continue to lead in producing carbon-efficient products and does not lead to higher emissions in other parts of the world.
- 9 The Government will need to respond to the Commission's review of the 2050 target next year. This review we are undertaking will inform that response.
- 10 The biogenic methane targets are part of a series of interrelated emissions budgets and targets. Any future decisions on the biogenic methane components of the 2050 target are likely to have implications for the wider economy and broader Ministerial portfolios.

Analysis

- 11 We have been clear in our commitment to maintain a split-gas approach to our domestic climate change targets, and to review the methane science and targets for consistency with no additional warming from agricultural methane emissions.
- 12 To do this, we intend to undertake a Methane Science and Target Review (Review) and establish an independent Ministerial advisory panel (Panel) to:
 - 12.1 review the methane science; and
 - 12.2 provide evidence-based advice on what our domestic 2050 methane target should be to ensure no additional warming from biogenic methane.
- 13 We propose to undertake a two-step process for announcing the Review and establishing the Panel:
 - 13.1 By 8 April 2024: Publicly announce the Review will be undertaken, and that a Panel will be established; and
 - 13.2 May 2024: Seek Cabinet's approval to initiate the Review and establish the Panel – this will include a clear scope of the Review, the terms of reference, appointees and any other relevant considerations.

- 14 We intend to publicly announce the Review by 8 April to align with the release of the Commission's public consultation on its draft advice noted in paragraph 5. Doing this will reiterate to the public and stakeholders that the Government is following through on our commitment to conduct an independent review of our biogenic methane targets for consistency with no additional warming.
- 15 Initiating the Review will also help us build a stronger common understanding on an up-to-date view of the methane science. This is an integral step to building the foundation for reviewing our biogenic methane target. It is therefore important that the Review is independent, has a robust process and has credible members on the Panel to provide confidence in the outputs.
- 16 Following our announcement of the Review, the next steps for approving the initiation of the Review and establishing the Panel are outlined below:

Activity	Timeframe
ECO Cabinet Committee and Cabinet consideration of Methane Science and Targets Review terms of reference and establishment of Panel	May 2024
APH and Cabinet approval of Panel members	May 2024
Initiate the Review	Q2 2024
Expected completion of the Review, including a current view of the methane science and advice on a methane reduction target/s in line with no additional warming.	Q3 2024

Cost-of-living, Financial, Population, Legislative, Implications and Human Rights

- 17 We are not proposing any policy changes. Cost-of-living, financial, population, legislative implications and Human Rights can be assessed when policy decisions are considered following the Panel's findings.
- 18 Any future decisions on amending the biogenic methane target will likely require amendments to the CCRA (and interrelated emissions budgets and targets) and will have implications for the wider economy and broader Ministerial portfolios.

Impact Analysis

- 19 We are not proposing any policy changes. A Regulatory Impact Statement and Climate Implications of Policy Assessment will need to be undertaken when policy decisions are considered following the Panel's findings.

Use of external Resources

- 20 No external resources were used in developing this proposal.

Consultation

- 21 [Placeholder - The following agencies were briefly consulted on the Cabinet paper - Te Arawhiti, Ministry of Business, Innovation and Employment, Te Puni Kōkiri, Treasury, Department of the Prime Minister and Cabinet, Ministry of Transport, Waka Kotahi NZ Transport Agency, Public Service Commission and the Ministry of Foreign Affairs and Trade.]

Communications

- 22 We propose to publicly announce this Review by 8 April 2024. The decision will be announced via a joint Ministerial media release.
- 23 We will likely need to manage communications around our intentions of this review process when the announcement is made. We will ensure appropriate communications are provided to manage this risk.
- 24 The Review's terms of reference will need to ensure the process is transparent and accessible given the high public interest in this topic.

Proactive Release

- 25 Following Cabinet's consideration, we will consider the release of this paper on the Ministry for Primary Industries website in whole or in part, subject to appropriate redactions under the Official Information Act 1982.

Recommendations

The Minister of Agriculture and Minister of Climate Change recommend that the Committee:

- 1 **Note** the National - ACT coalition agreement includes a commitment to “*Maintain a split-gas approach to methane and carbon dioxide through to 2050 and review the methane science and targets in 2024 for consistency with no additional warming from agricultural methane emissions*”.
- 2 **Note** that the Minister of Agriculture and Minister of Climate Change propose to undertake a Methane Science and Target Review (Review) and establish an independent Ministerial advisory panel (Panel) to:
 - 2.1 review the methane science; and
 - 2.2 provide evidence-based advice on what the 2050 biogenic methane target should be to ensure no additional warming from biogenic methane.
- 3 **Note** the Minister of Agriculture and Minister of Climate Change will progress a two-step process for announcing the Review, and then establishing the Panel and initiating the Review:
 - 3.1 By 8 April 2024: Publicly announce the Review will be progressed, and an independent Panel will be established; and
 - 3.2 May 2024: Seek Cabinet’s approval to initiate the Review and establish the Panel – this will include a clear scope of the Review, the terms of reference, appointees and any other relevant considerations.
- 4 **Note** that as the biogenic methane targets are part of a series of interrelated emissions budgets and targets, any future decisions on the biogenic methane components of the 2050 target are likely to have implications for the wider economy and broader Ministerial portfolios.

Authorised for lodgement

Hon Todd McClay
Minister of Agriculture

Hon Simon Watts
Minister of Climate Change

Appendix One: Cabinet paper to lodge – Announcing the methane science and targets

In Confidence

Office of the Minister of Agriculture
Office of the Minister of Climate Change

Chair, Cabinet Economic Policy Committee

Announcing the Methane Science and Target Review

Proposal

- 1 We propose to publicly announce a review of the methane science and biogenic methane target for consistency with no additional warming from agricultural methane emissions.

Relation to Government priorities

- 2 This supports the National - ACT coalition agreement commitment to “maintain a split-gas approach to methane and carbon dioxide through to 2050 and review the methane science and targets in 2024 for consistency with no additional warming from agricultural methane emissions”.

Background

- 3 In 2019, the Climate Change Response Act 2002 (CCRA) was amended to set New Zealand’s domestic climate change targets for 2050. These targets are split by greenhouse gas type, with a separate target for biogenic methane¹ reduction and a net zero goal for all other greenhouse gases.
- 4 The legislated target requires that “emissions of biogenic methane in a calendar year” are:
 - 4.1 ten percent less than 2017 emissions by the year beginning 1 January 2030; and
 - 4.2 24 to 47 percent less than 2017 emissions by the calendar year on 1 January 2050 and for each subsequent year. ²
- 5 This year the Climate Change Commission (the Commission) is undertaking a review of the 2050 targets (including biogenic methane targets as required by the CCRA).
- 6 The Commission will:
 - 6.1 launch public consultation on its review of the 2050 target on 8 April 2024; and
 - 6.2 provide its final advice to the Minister of Climate Change by 31 December 2024.

¹ Under the CCRA, biogenic methane is defined as all methane greenhouse gases produced from the agriculture and waste sectors (as reported in the New Zealand Greenhouse Gas Inventory). The agriculture sector produces approximately 91 percent of gross annual biogenic methane emissions in New Zealand. The remaining 9 percent is from the waste sector.

² The 2050 target was set to reflect the Intergovernmental Panel on Climate Change’s special report which found that in scenarios limiting warming to 1.5 degrees with limited or no overshoot, the central range of reductions in global agricultural methane emissions is 24-47 percent below 2010 levels. A range was set, to reflect the uncertainty on actual reduction required from a short-lived gas to meet the 1.5 degrees temperature goal.

- 7 Due to the Commission's independence, we do not know to what extent no-additional warming and review of the methane science will feature in its draft advice. The CCRA also requires that the Commission can only recommend a change to the 2050 target if a significant change has occurred, or is likely to occur, in particular areas that relate to climate change for example global action.³
- 8 This is why it is important that we initiate an independent review of the methane science and target for consistency with no additional warming. Our trade partners, the international community and New Zealanders expect the agriculture sector to contribute to our climate change targets. However, we need to ensure that:
- 8.1 the agriculture sector's contribution to our climate change targets is fair and appropriate compared to other parts of the economy; and
 - 8.2 any domestic efforts to bring down emissions support our farmers to continue to lead in producing carbon-efficient products and does not lead to higher emissions in other parts of the world.
- 9 The Government will need to respond to the Commission's review of the 2050 target next year. This review we are undertaking will inform that response.
- 10 The biogenic methane targets are part of a series of interrelated emissions budgets and targets. Any future decisions on the biogenic methane components of the 2050 target are likely to have implications for the wider economy and broader Ministerial portfolios.

Analysis

- 11 We have been clear in our commitment to maintain a split-gas approach to our domestic climate change targets, and to review the methane science and targets for consistency with no additional warming from agricultural methane emissions.
- 12 To do this, we intend to undertake a Methane Science and Target Review (Review) and establish an independent Ministerial advisory panel (Panel) to:
- 12.1 review the methane science; and
 - 12.2 provide evidence-based advice on what our domestic 2050 methane target should be to ensure no additional warming from biogenic methane.
- 13 We propose to undertake a two-step process for announcing the Review and establishing the Panel:
- 13.1 By 8 April 2024: Publicly announce the Review will be undertaken, and that a Panel will be established; and
 - 13.2 May 2024: Seek Cabinet's approval to initiate the Review and establish the Panel – this will include a clear scope of the Review, the terms of reference, appointees and any other relevant considerations.

³ Section 5T(2)(a) of the CCRA lists the following areas that would require significant change in order for the Commission to recommend a change to the target: (i) Global action; (ii) scientific understanding of climate change; (iii) New Zealand's economic or fiscal circumstances; (iv) New Zealand's obligations under relevant international agreements; (v) technological developments; (vi) distributional impacts; (vii) equity implications (including generational equity); (viii) the principal risks and uncertainties associated with emissions reductions and removals; (ix) social, cultural, environmental, and ecological circumstances.

- 14 We intend to publicly announce the Review by 8 April to align with the release of the Commission’s public consultation on its draft advice noted in paragraph 5. Doing this will reiterate to the public and stakeholders that the Government is following through on our commitment to conduct an independent review of our biogenic methane targets for consistency with no additional warming.
- 15 Initiating the Review will also help us build a stronger common understanding on an up-to-date view of the methane science. This is an integral step to building the foundation for reviewing our biogenic methane target. It is therefore important that the Review is independent, has a robust process and has credible members on the Panel to provide confidence in the outputs.
- 16 Following our announcement of the Review, the next steps for approving the initiation of the Review and establishing the Panel are outlined below:

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Cost-of-living, Financial, Population, Legislative, Implications and Human Rights

- 17 We are not proposing any policy changes. Cost-of-living, financial, population, legislative implications and Human Rights can be assessed as part of any future policy work following the Panel’s findings.
- 18 Any future decisions on amending the biogenic methane target will likely require amendments to the CCRA (and interrelated emissions budgets and targets) and will have implications for the wider economy and broader Ministerial portfolios.

Impact Analysis

- 19 We are not proposing any policy changes. A Regulatory Impact Statement and Climate Implications of Policy Assessment will need to be undertaken as part of any future policy work following the Panel’s findings.

Use of external Resources

- 20 No external resources were used in developing this proposal.

Consultation

- 21 The following agencies were briefly consulted on the Cabinet paper - Te Arawhiti, Ministry of Business, Innovation and Employment, Te Puni Kōkiri, The Treasury, Department of the Prime Minister and Cabinet, Ministry of Transport, Public Service Commission and the Ministry of Foreign Affairs and Trade.

Communications

- 22 We propose to publicly announce this Review by 8 April 2024. The decision will be announced via a joint Ministerial media release.
- 23 We will likely need to manage communications around our intentions of this review process when the announcement is made. We will ensure appropriate communications are provided to manage this risk, including risks to priority relationships and foreign and trade policy objectives.
- 24 The Review's terms of reference will need to ensure the process is transparent and accessible given the high public interest in this topic.

Proactive Release

- 25 Following Cabinet's consideration, we will consider the release of this paper on the Ministry for Primary Industries website in whole or in part, subject to appropriate redactions under the Official Information Act 1982.

Recommendations

The Minister of Agriculture and Minister of Climate Change recommend that the Committee:

- 1 **Note** the National - ACT coalition agreement includes a commitment to “*Maintain a split-gas approach to methane and carbon dioxide through to 2050 and review the methane science and targets in 2024 for consistency with no additional warming from agricultural methane emissions*”.
- 2 **Note** that the Minister of Agriculture and Minister of Climate Change propose to undertake a Methane Science and Target Review (Review) and establish an independent Ministerial advisory panel (Panel) to:
 - 2.1 review the methane science; and
 - 2.2 provide evidence-based advice on what the 2050 biogenic methane target should be to ensure no additional warming from biogenic methane.
- 3 **Note** the Minister of Agriculture and Minister of Climate Change will progress a two-step process for announcing the Review, and then establishing the Panel and initiating the Review:
 - 3.1 by 8 April 2024: Publicly announce the Review will be progressed, and an independent Panel will be established; and
 - 3.2 May 2024: Seek Cabinet’s approval to initiate the Review and establish the Panel – this will include a clear scope of the Review, the terms of reference, appointees and any other relevant considerations.
- 4 **Note** that as the biogenic methane targets are part of a series of interrelated emissions budgets and targets, any future decisions on the biogenic methane components of the 2050 target are likely to have implications for the wider economy and broader Ministerial portfolios.

Authorised for lodgement

Hon Todd McClay
Minister of Agriculture

Hon Simon Watts
Minister of Climate Change

Recommendations

The Minister of Agriculture and Minister of Climate Change recommend that the Committee:

- 1 **Note** the National - ACT coalition agreement includes a commitment to “*Maintain a split-gas approach to methane and carbon dioxide through to 2050 and review the methane science and targets in 2024 for consistency with no additional warming from agricultural methane emissions*”.
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Authorised for lodgement

Hon Todd McClay
Minister of Agriculture

Hon Simon Watts
Minister of Climate Change

Appendix One: Draft Terms of Reference

REVIEW – TERMS OF REFERENCE [DRAFT]

Note:

Highlights in **yellow** relate to decisions on scope for ministerial feedback

Highlights in **green** relate to ToR details that are dependent on Ministerial decisions such as timeframes and short-listed potential members

Review Title	Review of the methane science and target [DRAFT]
Duration	[1 July – 2 November 2024]
Date issued	XX June 2024

Purpose

1. The purpose of the Advisory Group is to commence an independent review of the methane science and 2050 target for consistency with no additional warming from agricultural methane emissions.
2. This should include an up-to-date scientific understanding of methane and its warming impact in order to provide advice on what a biogenic methane target consistent with no additional warming would look like for New Zealand.
3. The Advisory Group's review will be independent of the Climate Change Commission's review of the 2050 targets this year and will provide an input into the Government's response to the Commission's advice in 2025.

Scope

4. The main output of the Advisory Group will be a report that disseminates the findings of the review to the Government. The report will be made publicly available and should be written in plain language and be accessible to the public.
5. The report should provide the following:
 - a) [Background on New Zealand's climate change targets and legislation];
 - b) [Background on New Zealand's agricultural sector and its greenhouse gas emissions];
 - c) [Background on different approaches to target setting. This would include a review of previous literature on these issues, with a focus on future warming scenarios (including no additional warming)];
 - d) An up-to-date explanation and summary of the methane science and the warming impact of methane;

- e) An up-to-date explanation and summary of the warming impact from biogenic methane from New Zealand's agricultural sector;
- f) An estimate of the ranges of biogenic methane emissions reductions in New Zealand that would be required to ensure no additional warming;
- g) [An explanation of the role of greenhouse gas metrics in relation to setting the biogenic methane target]

6. In doing so, the review should consider the following:

- a) [The limitations of any advice in relation to target setting];
- b) Contextualising what the advancements in methane science and its warming impact have been made since the target was set in 2019;
- c) The latest published scientific literature, including the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (AR6);
- d) Factors that impact estimating the range of emissions reductions from biogenic methane that would be consistent with no additional warming from biogenic methane in New Zealand (e.g., baseline year, mitigation scenarios, target years, technological developments in methane reduction and what is included as biogenic methane) and how variation in these factors impact the results;

Approach

7. The review will take place from July to November (4-month period). Within the 4-month period, the Panel will:

- a) 9(2)(g)(i) [REDACTED]
- b) Ensure an effective quality assurance process is undertaken;
- c) Where possible, provide a consensus view in its report. Where this is not possible, feedback from individual members will be captured, and considered as part of subsequent advice;
- d) Provide a process where interested parties can feed into the review;
- e) Provide a draft report to Ministers by [XX];
- f) Present a final report to the Minister of Agriculture and Minister of Climate Change by [Friday 29 November].

8. The review process should adhere to the following principles:

- a) Rigorous - Uses the most comprehensive feasible body of evidence; recognises and minimises bias; is independently reviewed as part of a quality assurance process.
- b) Inclusive - Considers many types and sources of evidence; uses a range of skills and people.
- c) Transparent - Clearly describes the research question, methods, sources of evidence and quality assurance process; communicates complexities and areas of contention; acknowledges assumptions, limitations and uncertainties, including any evidence gaps; declares personal, political and organisational interests and manages any conflicts.

- d) Accessible - Is written in plain language; is available in a suitable timeframe; is freely available online (this will be actioned by Ministers upon receipt of the report).

Context

9. Biogenic methane, a short-lived greenhouse gas (GHG), contributes to ~43% of New Zealand's gross aggregated annual greenhouse gas emissions.¹ Most of New Zealand's gross annual emissions of biogenic methane come from the agriculture sector (~91%), particularly from ruminant livestock. The remainder is from the waste sector (~9%).
10. New Zealand's 2050 target was set as part of the Climate Change Response (Zero Carbon) Amendment Act 2019 which amended the Climate Change Response Act 2002 (CCRA). At the same time the purposes of the CCRA were expanded to provide a framework by which New Zealand can develop and implement clear and stable climate change policies that contribute to the global effort under the Paris Agreement to limit the global average temperature increase to 1.5° Celsius above pre-industrial levels.
11. Under the CCRA New Zealand adopted a split-gas approach to the 2050 target based on scientific evidence that biogenic methane,² as a short-lived gas, does not have to reduce to zero to limit global warming.
12. The current 2050 target for biogenic methane requires that New Zealand's gross emissions of biogenic methane in a calendar year are 10% less than 2017 emissions by the calendar year beginning 1 January 2030 and 24 - 47% less than 2017 by the calendar year beginning on 1 January 2050 and for each subsequent calendar year.
13. The Government has committed to "maintain a split-gas approach to methane and carbon dioxide through to 2050 and review the methane science and targets in 2024 for consistency with no additional warming from agricultural methane emissions".
14. The Minister of Climate Change and the Minister of Agriculture seek advice on what our biogenic methane target should be to ensure no additional warming.
15. Determining an appropriate target for New Zealand is a judgement for the Government based on a range of considerations including equity, responsibility, cost and economy wide opportunities for emissions reductions.

¹ When aggregated using the greenhouse gas metric GWP100.

² Under the CCRA, biogenic methane is defined as all methane greenhouse gases produced from the agriculture and waste sectors (as reported in the New Zealand Greenhouse Gas Inventory).

Skills and experience:

16. To ensure a robust and independent review process, the advisory group will need to collectively hold sufficient expertise and capability across the following topics:
- Climate science – including climate modelling and the warming impact of short and long-lived greenhouse gases,
 - New Zealand's greenhouse gas emissions, particularly biogenic methane,
 - Understanding of the New Zealand's agricultural sector
 - Understanding of New Zealand's climate change targets and budgets under the Climate Change Response Act.

Memberships

17. **Three – five panel members and a chair** will be appointed by the Minister of Agriculture and Minister of Climate Change (Ministers), following approval from APH Committee and Cabinet.
18. A Chair will be appointed by Ministers. The Chair is expected to:
- Lead the work programme and ensure effective delivery of the final report.
 - Meet with the Minister of Agriculture and Minister of Climate Change to discuss progress of the review.
 - Liaise with the Secretariat on support required for the panel.
 - Maintain an effective working relationship with panel members.
19. A member may resign from the panel by informing the Ministers in writing.
20. A replacement Chair, or new members can be added or removed from the group by Ministers, subject to Cabinet approval.

Fees

21. **To be derived from the relevant Cabinet Fees Framework (Category 4).**

22. Letters of appointment will detail the remuneration and reimbursement arrangements for the Chair and panel members.

Secretariat / Support:

23. **The panel will be supported by ministry officials (the Secretariat).**

Deliverables

24. The Panel is to provide a draft report by **XX** and a final report by **29 November 2024**.

Conflict of interests

25. Group members are expected to disclose any perceived or real conflicts of interest to the Chair and secretariat. A conflict-of-interest register will be maintained by the secretariat.

General confidentiality requirements

26. If the panel receives an official information request, they must immediately provide it to MfE/MPI via the Secretariat and advise the requester that the request was referred to MfE/MPI.

DRAFT

Appendix One: Sub24-0051 - Cabinet paper – Initiating the Methane Science and Targets Review and Appendices

In Confidence

Office of the Minister of Climate Change
Office of the Minister of Agriculture

Chair, Cabinet Economic Policy Committee

Initiating the Methane Science and Target Review

Proposal

- 1 We propose to initiate a review of the methane science and biogenic methane target for no additional warming.

Relation to Government priorities

- 2 Our proposal supports:
 - 2.1. the New Zealand National Party and ACT New Zealand coalition agreement commitment to “maintain a split-gas approach to methane and carbon dioxide through to 2050 and review the methane science and target in 2024 for consistency with no additional warming from agricultural methane emissions”; and
 - 2.2. Action 13 of the Coalition Government’s Action Plan for New Zealand from 1 April to 30 June 2024 to “Commence an independent review of the methane science and target for consistency with no additional warming from agricultural methane emissions”.

Background

- 3 On 2 April 2024, we informed Cabinet of our approach to undertake a review of New Zealand’s 2050 biogenic methane science and target for consistency with no additional warming (the Review), including advice on what the target should be to ensure no additional warming for biogenic methane [CAB-24-MIN-0109 refers]¹.
- 4 We also informed Cabinet that the Review will be conducted by an independent Panel (the Panel) who will:
 - 4.1. review the methane science; and
 - 4.2. provide evidence-based advice on what the 2050 biogenic methane target should be to ensure no additional warming from biogenic methane.

¹ In 2019, the Climate Change Response Act 2002 (CCRA) was amended to set New Zealand’s domestic climate change target for 2050. New Zealand has a separate target for biogenic methane, which includes:

- a) ten percent less than 2017 emissions by the year beginning 1 January 2030; and
- b) 24 to 47 percent less than 2017 emissions by the calendar year on 1 January 2050 and for each subsequent year.

- 5 On 8 April 2024, the Climate Change Commission (The Commission) commenced public consultation on their first review of the 2050 emissions target. The Commission aims to provide the Government with final advice by 31 December 2024. The Government will need to respond to the Commission's review within 12 months.
- 6 While the Review will focus on the science of the warming effects of methane, it will help us to make informed future decisions on agriculture climate change policy that meet our objectives. Our objectives include to:
 - 6.1. provide clear direction to the agriculture sector and certainty on the agriculture sector's role in meeting our 2050 climate change targets, particularly as our current 2050 biogenic methane target provides less certainty due to its wide range;
 - 6.2. ensure that the agriculture sector's contribution to our climate change target is fair and appropriate compared to other parts of the economy; and
 - 6.3. ensure that any domestic efforts to reduce emissions support our farmers to continue to lead in producing emissions-efficient products and does not lead to higher emissions in other parts of the world.
- 7 The biogenic methane target is part of a series of interrelated emissions budgets and targets². This includes Target 9 of the Government's Targets to be delivered by 2030 – reduced net greenhouse gas emissions.³ Any future decisions on the biogenic methane components of the 2050 target are likely to have implications for the wider economy and other Ministerial portfolios.

Analysis

Terms of Reference for the Review and selection of the Panel

- 8 We seek agreement to the draft Terms of Reference (ToR) (**Appendix One**) that includes details on the Review's scope, context, working approach and operational requirements for the Panel.
- 9 The Panel will provide a report to Ministers that summarises the most up-to-date science regarding methane and its warming impact. It will be tailored to recognise New Zealand's methane emissions profile. It will provide additional information that can support our response to the Climate Change Commission's recommendations. The Report will be shared publicly.
- 10 A Panel of three to five scientific experts in relevant fields, with an independent chair, will be set up to carry out the review between July and November 2024. The Panel will consult the existing literature and engage with experts and interested parties as part of their process.

² New Zealand's emissions budgets and its international target under the Paris Agreement (Nationally Determined Contribution - NDC) are all gas/all sector targets. Reducing the contribution from a particular greenhouse gas from one sector would require an increase in emissions reductions in other sectors to meet the NDC.

³ Target 9 of the Government's targets to be delivered by 2030 is based on emissions budgets 1 and 2, which were set as stepping stones to the 2050 target.

- 11 The Panel will not make any conclusions or recommendations that go beyond performing the scientific review and providing the evidence-base on what a target should be to ensure no additional warming. For example, the report will not cover advice on what the implications of biogenic methane target consistent with no additional warming would be on New Zealand's broader climate policies and other domestic targets and budgets.
- 12 We propose to seek further feedback from short-listed candidates on the ToR following this paper.⁴ This will allow them to provide input on the ToR before they undertake the Review.
- 13 Determining the baseline year is a key consideration when assessing a target for consistency with no additional warming. Officials are providing further advice on the baseline for the final ToR.
- 14 We propose that we (the Ministers of Climate Change and Agriculture) have delegated authority to finalise the ToR following any feedback from short-listed candidates, in consultation with relevant Ministers. This includes finalising the baseline year. We will ensure that the ToR are finalised by 24 June.
- 15 We propose that the Panel members and chair are considered by the Cabinet Appointment and Honours (APH) Committee on 18 June and approved by Cabinet on 24 June. We have outlined the nomination and appointment process we have undertaken to date for the Panel members and chair in Appendix Two.

Relationship to the Climate Change Commissions advice and other government policy

- 16 Determining an appropriate domestic target for New Zealand is not solely a question of science but a judgement for the Government based on a range of considerations including equity, responsibility, cost, and economy wide opportunities for emissions reductions.
- 17 Following the Review, and after the Commission provides its final recommendations to the Government, officials will provide advice on the findings of both processes, including the full set of considerations relevant to setting domestic targets.⁵

⁴ Note, interested Panel Candidates have signed a confidentiality agreement prior to receiving information on the Review. Candidates received a draft copy of the ToR as part of the selection process.

⁵ For example, what is a fair and appropriate contribution of the agriculture sector towards New Zealand's climate efforts.

International considerations

- 18 At COP28 countries recognised that global efforts to tackle climate change are not on track to limit warming to the 1.5-degree target in the Paris Agreement. Fellow signatories to the Global Methane Pledge⁶ are likely to pay close attention to any changes to New Zealand's biogenic methane target.

Cost-of-living, Population and Human Rights Implications

- 19 We are not proposing any policy changes. Cost-of-living, population and Human Rights implications can be assessed as part of any future policy work following the Panel's findings.

Legislative implications

- 20 Any future decisions on amending the biogenic methane target would require amendments to the CCRA (and interrelated emissions budgets and targets, including Target 9) and will have implications for the wider economy and broader Ministerial portfolios.

Financial Implications

- 20 No new funding will be sought for the Review Panel. Panel remuneration will be through the Ministry for the Environment (MfE) and the Ministry for Primary Industries (MPI) departmental Financial Year 24/25 funding. Work by the Panel will be undertaken remotely with minimal additional expenses, such as travel and accommodation, forecast. Panel secretariat support will be provided by existing agency resources.

Impact Analysis

- 21 We are not proposing any policy changes. A Regulatory Impact Statement and Climate Implications of Policy Assessment will need to be undertaken as part of any future policy work following the Panel's findings, as required.

Use of external resources

- 22 No external resources have been used to support work to begin the Review and establishing a Panel.

Consultation

- 23 The following agencies were consulted on the Cabinet paper – Office for Māori Crown Relations - Te Arawhiti, Ministry of Business, Innovation and Employment, Te Puni Kōkiri, The Treasury, Ministry of Transport, Public Service Commission, the Department of Conservation, Ministry of Foreign Affairs and Trade, and the Department of the Prime Minister and Cabinet.

⁶ This United States of America and European Union-led initiative has 155 signatories including New Zealand. Participants joining the Pledge agree to take voluntary actions to contribute to a collective effort to reduce global methane emissions at least 30 percent from 2020 levels by 2030. This is a global, not a national, reduction target.

Communications

- 24 We propose to announce the commencement of the Review, alongside Associate Agriculture Ministers, following APH approval of the Panel Members. We expect this announcement will happen before 30 June 2024.

Proactive Release

- 25 Following Cabinet's consideration, we will consider the release of this paper on the MfE website subject to appropriate redactions under the Official Information Act 1982.

DRAFT

Recommendations

The Minister of Climate Change and Minister of Agriculture recommend that the Committee:

1. **Note** that on 2 April, the Ministers of Agriculture and Climate Change informed Cabinet of their approach to undertake a methane science and target review (the Review) and establish an independent Review Panel (the Panel) to [CAB-24-MIN-0109 refers]:
 - 1.1 review the methane science; and
 - 1.2 provide evidence-based advice on what the 2050 biogenic methane target should be to ensure no additional warming from biogenic methane.
2. **Note** that Action 13 of the Government's Action Plan for New Zealand from 1 April to 30 June commits to "commence an independent review of the methane science and target for consistency with no additional warming from agricultural methane emissions".
3. **Agree** to the draft Terms of Reference (**Appendix One**), which details the scope, context, working approach, and operational requirements of the Panel.
4. **Note** the short listed candidates will provide further feedback on the Terms of Reference.
5. **Note** officials will provide advice on the baseline to inform the final Terms of Reference.
6. **Agree** that the Ministers of Climate Change and Agriculture have delegated authority to finalise the terms of reference, including the baseline year (not inconsistent with prior Cabinet decisions and in consultation with relevant Ministers) following any feedback from short-listed candidates, by no later than 24 June.
5. **Note** the Minister of Climate Change and the Minister of Agriculture are currently engaging with Ministerial colleagues on the list of Panel candidates.
6. **Note** that, following Ministerial consultation, the Minister of Climate Change and the Minister of Agriculture will seek approval of the Panel membership from the Cabinet Appointments and Honours Committee on the 18 June and by Cabinet on the 24 June 2024.
7. **Agree** that this Review will commence from 30 June 2024.

Placeholder only [Authorised for Lodgement]

Hon Todd McClay
Minister of Agriculture

Hon Simon Watts
Minister of Climate Change

Appendix One: Draft Terms of Reference

REVIEW – TERMS OF REFERENCE [DRAFT]

Review Title	Review of the methane science and target [DRAFT]
Duration	[1 July – 29 November 2024]
Date issued	XX June 2024

Purpose

1. The purpose of the Advisory Group (referred to as the Panel) is to commence an independent review of the methane science and 2050 target for consistency with no additional warming from agricultural methane emissions.
2. This should include a scientific understanding of methane and its warming impact in order to provide advice on what a biogenic methane target consistent with the principal of no additional warming would look like for New Zealand.
3. The Panel's review will be independent of the Climate Change Commission's review of the 2050 targets this year and will provide the Government with a wide body of evidence to consider as it forms its response to the Commission's advice in 2025.

Scope

4. The main output of the Panel will be a report that disseminates the findings of the review to the Government. The report will be made publicly available and should be written in plain language and be accessible to the public.
5. The report should provide the following:
 - a) background on New Zealand's climate change targets and legislation;
 - b) background on different approaches to setting biogenic methane targets. This would include a review of previous literature on these issues (with a focus on future warming scenarios and including relevant studies) in order to ensure the report has a clear definition of no additional warming from biogenic methane;
 - c) an up-to-date explanation and summary of the warming impact of biogenic methane⁷, specifically including biogenic methane from New Zealand's agricultural sector;

⁷ As per the definition of agricultural biogenic methane in the Climate Change Response Act 2002 and consistent with reporting in New Zealand's Greenhouse Gas Inventory

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- d) an estimate on what the New Zealand biogenic methane target should be, or an estimate of the target ranges, to ensure no additional warming from biogenic methane [from baseline year/s]; and
 - e) Provide an overview of the global emissions reductions required from biogenic methane from agriculture by 2050, and beyond, that would be required to limit the global average temperature increase to 1.5° Celsius above pre-industrial levels.
6. In doing so, the review should consider the following:
- a) the limitations and constraints of any advice in relation to target setting;
 - b) providing a clear rationale and justification for any methodological choices and an explanation of any assumptions or limitations;
 - c) the advancements in methane science and its warming impact since the target was set in 2019;
 - d) the latest published scientific literature, including the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (AR6); and
 - e) factors that affect estimating the range of emissions reductions from biogenic methane that would be consistent with no additional warming from biogenic methane in New Zealand (e.g., global scenarios of future greenhouse concentrations and associated emissions, target years, and what is included as biogenic methane) and how variation in these factors impact the results.
7. The following issues are out of scope of the review:
- a) making any conclusions or recommendations that go beyond performing the scientific review and providing the evidence-based advice required by these terms of reference. For example, the advice will not cover implications of any new proposed target on the broader climate strategy; and
 - b) reviewing any other aspects of the 2050 Target as set out in s5Q of the Climate Change Response Act 2002.⁸

Approach

8. The review will take place from July to November. Within the four-month period, the Panel will:
- a) engage with relevant experts if they choose to, in the development of the report;
 - b) ensure an effective quality assurance process is undertaken, [for example, including through an independent external review process];
 - c) where possible, provide a consensus view in its report. Where this is not possible, feedback from individual members will be captured, and considered as part of subsequent advice;

⁸ Section 5Q of the CCRA sets out the domestic target for 2050. The 2050 target requires that net accounting emissions of greenhouse gases in a calendar year, other than biogenic methane, are zero by the calendar year beginning on 1 January 2050 and for each subsequent year.

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- d) provide a process where interested parties can submit relevant evidence, including mātauranga Māori;
 - e) provide a draft report to the Minister of Agriculture and Minister of Climate Change by [1 November 2024]; and
 - f) provide a final report to the Ministers by [Friday 29 November 2024].
9. The review process should adhere to the following principles:
- a) rigorous - Uses the most up-to-date and comprehensive body of evidence; recognises and minimises bias; is independently reviewed as part of a quality assurance process;
 - b) inclusive - Considers many types and sources of evidence; uses a range of skills and people;
 - c) transparent - Clearly describes the research question, methods, sources of evidence and quality assurance process; communicates complexities and areas of contention; acknowledges assumptions, limitations and uncertainties, including any evidence gaps; declares personal, political and organisational interests and manages any conflicts; and
 - d) accessible - Is written in plain language; is available by the 29 November 2024; is freely available online (this will be actioned by Ministers upon receipt of the report).

Context

10. Biogenic methane, a short-lived greenhouse gas (GHG), contributes to ~48% of New Zealand's gross aggregated annual greenhouse gas emissions. Most of New Zealand's gross annual emissions of biogenic methane come from the agriculture sector (~91%), particularly from ruminant livestock. The remainder is from the waste sector (~9%).
11. New Zealand's 2050 target was set as part of the Climate Change Response (Zero Carbon) Amendment Act 2019 which amended the Climate Change Response Act 2002 (CCRA). At the same time the purposes of the CCRA were expanded to provide a framework by which New Zealand can develop and implement clear and stable climate change policies that contribute to the global effort under the Paris Agreement to limit the global average temperature increase to 1.5° Celsius above pre-industrial levels.
12. Under the CCRA New Zealand adopted a split-gas approach to the 2050 target based on scientific evidence that biogenic methane,² as a short-lived gas, does not have to reduce to zero to limit global warming.
13. The legislated 2050 target for biogenic methane requires that New Zealand's gross emissions of biogenic methane in a calendar year are 10% less than 2017 emissions by the calendar year beginning 1 January 2030 and 24 - 47% less than 2017 by the calendar year beginning on 1 January 2050 and for each subsequent calendar year.

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14. The Government has committed to “maintain a split-gas approach to methane and carbon dioxide through to 2050 and review the methane science and targets in 2024 for consistency with no additional warming from agricultural methane emissions”.
15. The Minister of Climate Change and the Minister of Agriculture are seeking advice on what our biogenic methane target should be to ensure no additional warming.
16. Determining an appropriate target for New Zealand is a judgement for the Government based on a range of considerations including equity, responsibility, cost, and economy wide opportunities for emissions reductions.

Skills and experience:

17. To ensure a robust and independent review process, the Panel will need to collectively hold sufficient expertise and capability across the following topics:
 - a) climate science – including climate modelling and the warming impact of short and long-lived greenhouse gases;
 - b) New Zealand’s greenhouse gas emissions, particularly biogenic methane from the agriculture sector;
 - c) understanding of New Zealand’s climate change targets and budgets under the Climate Change Response Act.

Memberships

18. [Three to five Panel members and a chair] will be appointed by the Minister of Agriculture and Minister of Climate Change (Ministers), following approval from APH Committee and Cabinet.
19. A chair will be appointed by Ministers. The chair is expected to:
 - a) lead the work programme and ensure effective delivery of the final report;
 - b) meet with Ministers to discuss progress of the review;
 - c) liaise with the Secretariat on support required for the Panel; and
 - d) maintain an effective working relationship with Panel members.
20. A member may resign from the Panel by informing the Ministers in writing.
21. [A replacement chair, or new members can be added or removed from the Panel by Ministers, subject to Cabinet approval.]

Fees

22. To be derived from the relevant Cabinet Fees Framework (Category 4).
23. Letters of appointment will detail the remuneration and reimbursement arrangements for the chair and Panel members.

Secretariat / Support:

24. The Panel will be supported by ministry officials (the Secretariat). The Secretariat will provide the following support (TBC):
 - a) [The Secretariat's functions will be confirmed in the following weeks]

Deliverables

25. The Panel is to provide a draft report by [1 November 2024] and a final report by [29 November 2024.]
26. Additional interim deliverables may be determined in agreement between Panel members, the Secretariat and Ministers as required.

Conflict of interests

27. Group members are expected to disclose any perceived or real conflicts of interest to the chair and Secretariat. A conflict-of-interest register will be maintained by the Secretariat.

General confidentiality requirements

28. If the Panel receives an official information request, they must immediately provide it to MfE/MPI via the Secretariat and advise the requester that the request was referred to MfE/MPI.

Appendix Two: Appointment process for the potential Panel members

- 1 Given the scope and output we seek from the Panel throughout the Review, we have determined the Panel should be made up of three to five Panel members including a chair.
- 2 To support a robust and independent process, officials identified individuals from New Zealand and overseas that would support a range of the following expertise and knowledge:
 - a) climate science – including climate modelling and the warming impact of short and long-lived greenhouse gases;
 - b) New Zealand’s greenhouse gas emissions, particularly biogenic methane from the agricultural sector;
 - c) understanding of New Zealand’s climate change targets and budgets under the Climate Change Response Act.
- 3 Officials then narrowed down the potential candidates based on the following selection criteria:
 - a) knowledge – qualification, technical/policy knowledge and sector knowledge/context;
 - b) skills / capabilities – credibility and experience within the science, strategic/cultural/mātauranga Māori perspective; and
 - c) expertise – networks and affiliations, and contribution to science panels and/or papers.
- 4 The list of potential candidates was then approved by Ministers for contact by officials to determine expressions of interest and availability.
- 5 Coalition partners and other relevant Ministers were consulted on the list of candidates as per the National, ACT and New Zealand First Coalition Government: Consultation and Operating Arrangements.
- 6 To assist with the management of the Panel, we will also propose including an independent chair with governance experience and the ability to ensure balanced views are brought forward from across the Panellists.
- 7 The final Panel membership and chair will be decided by Ministers and confirmed at the Cabinet Appointments and Honour Committee before 30 June 2024.

Appendix One: Cabinet paper to lodge – Initiating the methane science and targets review

In Confidence

Office of the Minister of Climate Change
Office of the Minister of Agriculture

Chair, Cabinet Economic Policy Committee

Initiating the Methane Science and Target Review

Proposal

- 1 We propose to initiate a review of the methane science and biogenic methane target for no additional warming.

Relation to Government priorities

- 2 Our proposal supports:
 - 2.1. the New Zealand National Party and ACT New Zealand coalition agreement commitment to “maintain a split-gas approach to methane and carbon dioxide through to 2050 and review the methane science and target in 2024 for consistency with no additional warming from agricultural methane emissions”; and
 - 2.2. Action 13 of the Coalition Government’s Action Plan for New Zealand from 1 April to 30 June 2024 to “Commence an independent review of the methane science and target for consistency with no additional warming from agricultural methane emissions”.

Background

- 3 On 2 April 2024, we informed Cabinet of our approach to undertake a review of New Zealand’s 2050 biogenic methane science and target for consistency with no additional warming (the Review), including advice on what the target should be to ensure no additional warming for biogenic methane [CAB-24-MIN-0109 refers]¹.
- 4 We also informed Cabinet that the Review will be conducted by an independent Panel (the Panel) who will:
 - 4.1. review the methane science; and
 - 4.2. provide evidence-based advice on what the 2050 biogenic methane target should be to ensure no additional warming from biogenic methane.

¹ In 2019, the Climate Change Response Act 2002 (CCRA) was amended to set New Zealand’s domestic climate change target for 2050. New Zealand has a separate target for biogenic methane, which includes:

- a) ten percent less than 2017 emissions by the year beginning 1 January 2030; and
- b) 24 to 47 percent less than 2017 emissions by the calendar year on 1 January 2050 and for each subsequent year.

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- 5 On 8 April 2024, the Climate Change Commission (The Commission) commenced public consultation on their first review of the 2050 emissions target. The Commission aims to provide the Government with final advice by 31 December 2024. The Government will need to respond to the Commission's review within 12 months.
- 6 While the Review will focus on the science of the warming effects of methane, it will help us to make informed future decisions on agriculture climate change policy that meet our objectives. Our objectives include to:
 - 6.1. provide clear direction to the agriculture sector and certainty on the agriculture sector's role in meeting our 2050 climate change targets, particularly as our current 2050 biogenic methane target provides less certainty due to its wide range;
 - 6.2. ensure that the agriculture sector's contribution to our climate change target is fair and appropriate compared to other parts of the economy; and
 - 6.3. ensure that any domestic efforts to reduce emissions support our farmers to continue to lead in producing emissions-efficient products and does not lead to higher emissions in other parts of the world.
- 7 The biogenic methane target is part of a series of interrelated emissions budgets and targets². This includes Target 9 of the Government's Targets to be delivered by 2030 – reduced net greenhouse gas emissions.³ Any future decisions on the biogenic methane components of the 2050 target are likely to have implications for the wider economy and other Ministerial portfolios.

Analysis

Terms of Reference for the Review and selection of the Panel

- 8 We seek agreement to the draft Terms of Reference (ToR) (**Appendix One**) that includes details on the Review's scope, context, working approach and operational requirements for the Panel.
- 9 The Panel will provide a report to Ministers that summarises the most up-to-date science regarding methane and its warming impact. It will be tailored to recognise New Zealand's methane emissions profile. It will provide additional information that can support our response to the Climate Change Commission's recommendations. The Report will be shared publicly.
- 10 A Panel of three to five scientific experts in relevant fields, with an independent chair, will be set up to carry out the review between July and November 2024. The Panel will consult the existing literature and engage with experts and interested parties as part of their process.

² New Zealand's emissions budgets and its international target under the Paris Agreement (Nationally Determined Contribution - NDC) are all gas/all sector targets. Reducing the contribution from a particular greenhouse gas from one sector would require an increase in emissions reductions in other sectors to meet the NDC.

³ Target 9 of the Government's targets to be delivered by 2030 is based on emissions budgets 1 and 2, which were set as stepping stones to the 2050 target.

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- 11 The Panel will not make any conclusions or recommendations that go beyond performing the scientific review and providing the evidence-base on what a target should be to ensure no additional warming. For example, the report will not cover advice on what the implications of a biogenic methane target consistent with no additional warming would be on New Zealand's broader climate policies and other domestic targets and budgets.
- 12 We propose to seek further feedback from short-listed candidates on the ToR following this paper.⁴ This will allow them to provide input on the ToR before they undertake the Review.
- 13 The draft ToR does not identify a baseline year from which the government seeks to achieve a state of no additional warming from biogenic methane. A baseline year is necessary for the Panel to calculate the level of emissions reductions required to achieve a state of "no additional warming".
- 14 We propose that we (the Ministers of Climate Change and Agriculture), alongside our Associate Climate Change and Agriculture Ministers, have delegated authority to finalise the ToR, including the baseline year for no additional warming target. This will follow feedback from short-listed candidates, in consultation with relevant Ministers. We will ensure that the ToR are finalised by 24 June.
- 15 We propose that the Panel members and chair are considered by the Cabinet Appointment and Honours (APH) Committee on 18 June and approved by Cabinet on 24 June. We have outlined the nomination and appointment process we have undertaken to date for the Panel members and chair in Appendix Two.

Relationship to the Climate Change Commission's advice and other government policy

- 16 Determining an appropriate domestic target for New Zealand is not solely a question of science but a judgement for the Government based on a range of considerations including equity, responsibility, cost, and economy wide opportunities for emissions reductions.
- 17 Following the Review, and after the Commission provides its final recommendations to the Government, officials will provide advice on the findings of both processes, including the full set of considerations relevant to setting domestic targets.⁵

International considerations

- 18 At COP28 countries recognised that global efforts to tackle climate change are not on track to limit warming to the 1.5-degree target in the Paris Agreement.

⁴ Note, interested Panel Candidates have signed a confidentiality agreement prior to receiving information on the Review. Candidates received a draft copy of the ToR as part of the selection process.

⁵ For example, what is a fair and appropriate contribution of the agriculture sector towards New Zealand's climate efforts.

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Fellow signatories to the Global Methane Pledge⁶ are likely to pay close attention to any changes to New Zealand's biogenic methane target.

Cost-of-living, Population and Human Rights Implications

- 19 We are not proposing any policy changes. Cost-of-living, population and Human Rights implications can be assessed as part of any future policy work following the Panel's findings.

Legislative implications

- 20 Any future decisions on amending the biogenic methane target would require amendments to the CCRA (and interrelated emissions budgets and targets, including Target 9) and will have implications for the wider economy and broader Ministerial portfolios.

Financial Implications

- 20 No new funding will be sought for the Review Panel. Panel remuneration will be through the Ministry for the Environment (MfE) and the Ministry for Primary Industries (MPI) departmental Financial Year 24/25 funding. Work by the Panel will be undertaken remotely with minimal additional expenses, such as travel and accommodation, forecast. Panel secretariat support will be provided by existing agency resources.

Impact Analysis

- 21 We are not proposing any policy changes. A Regulatory Impact Statement and Climate Implications of Policy Assessment will need to be undertaken as part of any future policy work following the Panel's findings, as required.

Use of external resources

- 22 No external resources have been used to support work to begin the Review and establishing a Panel.

Consultation

- 23 The following agencies were consulted on the Cabinet paper – Office for Māori Crown Relations - Te Arawhiti, Ministry of Business, Innovation and Employment, Te Puni Kōkiri, The Treasury, Ministry of Transport, Public Service Commission, the Department of Conservation, Ministry of Foreign Affairs and Trade, and the Department of the Prime Minister and Cabinet.

Communications

⁶ This United States of America and European Union-led initiative has 155 signatories including New Zealand. Participants joining the Pledge agree to take voluntary actions to contribute to a collective effort to reduce global methane emissions at least 30 percent from 2020 levels by 2030. This is a global, not a national, reduction target.

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- 24 We propose to announce the commencement of the Review, alongside Associate Agriculture Ministers, following APH approval of the Panel Members. We expect this announcement will happen before 30 June 2024.

Proactive Release

- 25 Following Cabinet's consideration, we will consider the release of this paper on the MfE website subject to appropriate redactions under the Official Information Act 1982.

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Recommendations

The Minister of Climate Change and Minister of Agriculture recommend that the Committee:

1. **Note** that on 2 April, the Ministers of Agriculture and Climate Change informed Cabinet of their approach to undertake a methane science and target review (the Review) and establish an independent Review Panel (the Panel) to [CAB-24-MIN-0109 refers]:
 - 1.1 review the methane science; and
 - 1.2 provide evidence-based advice on what the 2050 biogenic methane target should be to ensure no additional warming from biogenic methane.
2. **Note** that Action 13 of the Government's Action Plan for New Zealand from 1 April to 30 June commits to "commence an independent review of the methane science and target for consistency with no additional warming from agricultural methane emissions".
3. **Agree** to the draft Terms of Reference (**Appendix One**), which details the scope, context, working approach, and operational requirements of the Panel.
4. **Note** the short listed candidates will provide further feedback on the Terms of Reference.
5. **Note** officials will provide advice on the baseline to inform the final Terms of Reference.
6. **Agree** that the Ministers of Climate Change and Agriculture, and the Associate Agriculture and Climate Change Ministers, have delegated authority to finalise the terms of reference, including the baseline year (not inconsistent with prior Cabinet decisions and in consultation with relevant Ministers) following any feedback from short-listed candidates, by no later than 24 June.
5. **Note** the Minister of Climate Change and the Minister of Agriculture are currently engaging with Ministerial colleagues on the list of Panel candidates.
6. **Note** that, following Ministerial consultation, the Minister of Climate Change and the Minister of Agriculture will seek approval of the Panel membership from the Cabinet Appointments and Honours Committee on the 18 June and by Cabinet on the 24 June 2024.
7. **Agree** that this Review will commence from 30 June 2024.

[Authorised for Lodgement]

Hon Todd McClay
Minister of Agriculture

Hon Simon Watts
Minister of Climate Change

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Appendix One: Draft Terms of Reference

REVIEW – TERMS OF REFERENCE [DRAFT]

Review Title	Review of the methane science and target [DRAFT]
Duration	[1 July – 29 November 2024]
Date issued	XX June 2024

Purpose

1. The purpose of the Advisory Group (referred to as the Panel) is to commence an independent review of the methane science and 2050 target for consistency with no additional warming from agricultural methane emissions.
2. This should include a scientific understanding of methane and its warming impact in order to provide advice on what a biogenic methane target consistent with the principle of no additional warming would look like for New Zealand.
3. The Panel's review will be independent of the Climate Change Commission's review of the 2050 targets this year and will provide the Government with a wide body of evidence to consider as it forms its response to the Commission's advice in 2025.

Scope

4. The main output of the Panel will be a report that disseminates the findings of the review to the Government. The report will be made publicly available and should be written in plain language and be accessible to the public.
5. The report should provide the following:
 - a) background on New Zealand's climate change targets and legislation;
 - b) background on different approaches to setting biogenic methane targets. This would include a review of previous literature on these issues (with a focus on future warming scenarios and including relevant studies) in order to ensure the report has a clear definition of no additional warming from biogenic methane;
 - c) an up-to-date explanation and summary of the warming impact of biogenic methane⁷, specifically including biogenic methane from New Zealand's agricultural sector;

⁷ As per the definition of agricultural biogenic methane in the Climate Change Response Act 2002 and consistent with reporting in New Zealand's Greenhouse Gas Inventory

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- d) an estimate on what the New Zealand biogenic methane target should be, or an estimate of the target ranges, to ensure no additional warming from biogenic methane [from baseline year/s]; and
6. In doing so, the review should consider the following:
- a) the limitations and constraints of any advice in relation to target setting;
 - b) providing a clear rationale and justification for any methodological choices and an explanation of any assumptions or limitations;
 - c) the advancements in methane science and its warming impact since the target was set in 2019;
 - d) any relevant science that was not considered during the setting of the methane target in 2019;
 - e) the latest published scientific literature, including the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (AR6); and
 - f) factors that affect estimating the range of emissions reductions from biogenic methane that would be consistent with no additional warming from biogenic methane in New Zealand (e.g., global scenarios of future greenhouse concentrations and associated emissions, target years, and what is included as biogenic methane) and how variation in these factors impact the results.
7. The following issues are out of scope of the review:
- a) making any conclusions or recommendations that go beyond performing the scientific review and providing the evidence-based advice required by these terms of reference. For example, the advice will not cover implications of any new proposed target on the broader climate strategy; and
 - b) reviewing any other aspects of the 2050 Target as set out in s5Q of the Climate Change Response Act 2002.⁸

Approach

8. The review will take place from July to November. Within the four-month period, the Panel will:
- a) engage with relevant experts if they choose to, in the development of the report;
 - b) ensure an effective quality assurance process is undertaken, [for example, including through an independent external review process];
 - c) where possible, provide a consensus view in its report. Where this is not possible, feedback from individual members will be captured, and considered as part of subsequent advice;
 - d) provide a process where interested parties can submit relevant evidence;
 - e) provide a draft report to the Minister of Agriculture and Minister of Climate Change by [1 November 2024]; and

⁸ Section 5Q of the CCRA sets out the domestic target for 2050. The 2050 target requires that net accounting emissions of greenhouse gases in a calendar year, other than biogenic methane, are zero by the calendar year beginning on 1 January 2050 and for each subsequent year.

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- f) provide a final report to the Ministers by [Friday 29 November 2024].
9. The review process should adhere to the following principles:
 - a) rigorous - Uses the most up-to-date and comprehensive body of evidence; recognises and minimises bias; is independently reviewed as part of a quality assurance process;
 - b) inclusive - Considers many types and sources of evidence; uses a range of skills and people;
 - c) transparent - Clearly describes the research question, methods, sources of evidence and quality assurance process; communicates complexities and areas of contention; acknowledges assumptions, limitations and uncertainties, including any evidence gaps; declares personal, political and organisational interests and manages any conflicts; and
 - d) accessible - Is written in plain language; is available by the 29 November 2024; is freely available online (this will be actioned by Ministers upon receipt of the report).

Context

10. Biogenic methane, a short-lived greenhouse gas (GHG), contributes to ~48% of New Zealand's gross aggregated annual greenhouse gas emissions. Most of New Zealand's gross annual emissions of biogenic methane come from the agriculture sector (~91%), particularly from ruminant livestock. The remainder is from the waste sector (~9%).
11. New Zealand's 2050 target was set as part of the Climate Change Response (Zero Carbon) Amendment Act 2019 which amended the Climate Change Response Act 2002 (CCRA). At the same time the purposes of the CCRA were expanded to provide a framework by which New Zealand can develop and implement clear and stable climate change policies that contribute to the global effort under the Paris Agreement to limit the global average temperature increase to 1.5° Celsius above pre-industrial levels.
12. Under the CCRA New Zealand adopted a split-gas approach to the 2050 target based on scientific evidence that biogenic methane,² as a short-lived gas, does not have to reduce to zero to limit global warming.
13. The legislated 2050 target for biogenic methane requires that New Zealand's gross emissions of biogenic methane in a calendar year are 10% less than 2017 emissions by the calendar year beginning 1 January 2030 and 24 - 47% less than 2017 by the calendar year beginning on 1 January 2050 and for each subsequent calendar year.
14. The Government has committed to "maintain a split-gas approach to methane and carbon dioxide through to 2050 and review the methane science and targets in 2024 for consistency with no additional warming from agricultural methane emissions".

CLASSIFICATION

15. The Minister of Climate Change and the Minister of Agriculture are seeking advice on what our biogenic methane target should be to ensure no additional warming.
16. Determining an appropriate target for New Zealand is a judgement for the Government based on a range of considerations including equity, responsibility, cost, and economy wide opportunities for emissions reductions.

Skills and experience:

17. To ensure a robust and independent review process, the Panel will need to collectively hold sufficient expertise and capability across the following topics:
 - a) climate science – including climate modelling and the warming impact of short and long-lived greenhouse gases;
 - b) New Zealand’s greenhouse gas emissions, particularly biogenic methane from the agriculture sector;
 - c) understanding of New Zealand’s climate change targets and budgets under the Climate Change Response Act.

Memberships

18. [Three to five Panel members and a chair] will be appointed by the Minister of Agriculture and Minister of Climate Change (Ministers), following approval from APH Committee and Cabinet.
19. A chair will be appointed by Ministers. The chair is expected to:
 - a) lead the work programme and ensure effective delivery of the final report;
 - b) meet with Ministers to discuss progress of the review;
 - c) liaise with the Secretariat on support required for the Panel; and
 - d) maintain an effective working relationship with Panel members.
20. A member may resign from the Panel by informing the Ministers in writing.
21. [A replacement chair, or new members can be added or removed from the Panel by Ministers, subject to Cabinet approval.]

Fees

22. To be derived from the relevant Cabinet Fees Framework (Category 4).
23. Letters of appointment will detail the remuneration and reimbursement arrangements for the chair and Panel members.

Secretariat / Support:

24. The Panel will be supported by ministry officials (the Secretariat). The Secretariat will provide the following support (TBC):
 - a) [The Secretariat’s functions will be confirmed in the following weeks]

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Deliverables

- 25. The Panel is to provide a draft report by [1 November 2024] and a final report by [29 November 2024.]
- 26. Additional interim deliverables may be determined in agreement between Panel members, the Secretariat and Ministers as required.

Conflict of interests

- 27. Group members are expected to disclose any perceived or real conflicts of interest to the chair and Secretariat. A conflict-of-interest register will be maintained by the Secretariat.

General confidentiality requirements

- 28. If the Panel receives an official information request, they must immediately provide it to MfE/MPI via the Secretariat and advise the requester that the request was referred to MfE/MPI.

Appendix Two: Appointment process for the potential Panel members

- 1 Given the scope and output we seek from the Panel throughout the Review, we have determined the Panel should be made up of three to five Panel members including a chair.
- 2 To support a robust and independent process, officials identified individuals from New Zealand and overseas that would support a range of the following expertise and knowledge:
 - a) climate science – including climate modelling and the warming impact of short and long-lived greenhouse gases;
 - b) New Zealand’s greenhouse gas emissions, particularly biogenic methane from the agricultural sector;
 - c) understanding of New Zealand’s climate change targets and budgets under the Climate Change Response Act.
- 3 Officials then narrowed down the potential candidates based on the following selection criteria:
 - a) knowledge – qualification, technical/policy knowledge and sector knowledge/context;
 - b) skills / capabilities – credibility and experience within the science, strategic/cultural/mātauranga Māori perspective; and
 - c) expertise – networks and affiliations, and contribution to science panels and/or papers.
- 4 The list of potential candidates was then approved by Ministers for contact by officials to determine expressions of interest and availability.
- 5 Coalition partners and other relevant Ministers were consulted on the list of candidates as per the National, ACT and New Zealand First Coalition Government: Consultation and Operating Arrangements.
- 6 To assist with the management of the Panel, we will also propose including an independent chair with governance experience and the ability to ensure balanced views are brought forward from across the Panellists.
- 7 The final Panel membership and chair will be decided by Ministers and confirmed at the Cabinet Appointments and Honour Committee before 30 June 2024.

**Appendix One: Sub24-0067 – Draft Cabinet paper – Methane Science and Target
Review Panel: Appointment**

In Confidence

Office of the Minister of Climate Change

Office of the Minister of Agriculture

Chair, Cabinet Appointments and Honours Committee

Methane Science and Target Review Panel: Appointment**Proposal**

- 1 This paper notes our intention to make four member appointments and one chair appointment to the Methane Science and Target Review Panel, as below:

Name	Designation	Appointment/Reappointment	Term
9(2)(g)(i)	Chair	Appointment	From 30 June 2024 up to 30 November 2024
	Member	Appointment	From 30 June 2024 up to 30 November 2024
	Member	Appointment	From 30 June 2024 up to 30 November 2024
	Member	Appointment	From 30 June 2024 up to 30 November 2024
	Member	Appointment	From 30 June 2024 up to 30 November 2024

- 2 Our proposal supports:
- 2.1 the New Zealand National Party and ACT New Zealand coalition agreement commitment to “maintain a split-gas approach to methane and carbon dioxide through to 2050 and review the methane science and target in 2024 for consistency with no additional warming from agricultural methane emissions”; and
- 2.2 Action 13 of the Coalition Government’s Action Plan for New Zealand from 1 April to 30 June 2024 to “Commence an independent review of the methane science and target for consistency with no additional warming from agricultural methane emissions”.

Background


- 3 On 2 April 2024, we informed Cabinet of our approach to undertake a review of New Zealand’s 2050 biogenic methane science and target for consistency with no additional warming (the Review), including advice on what the target should be to ensure no additional warming for biogenic methane [CAB-24-MIN-0109 refers].

- 4 We also informed Cabinet that the Review will be conducted by an independent Panel (the Panel) who will:
 - 4.1 review the methane science; and
 - 4.2 provide evidence-based advice on what the 2050 biogenic methane target should be to ensure no additional warming from biogenic methane.
- 5 On 4 June, Cabinet noted that the Minister of Climate Change and the Minister of Agriculture intend to report back to the Cabinet Appointments and Honours Committee. Cabinet also agreed that the Review will commence on 30 June [CAB-MIN-XYZ refers].

Panel Appointment

- 6 We intend to appoint the following Chair and four members to the Methane Science and Target Review Panel:

9(2)(g)(i)



Representativeness of Appointment

- 7 We are satisfied that the Methane Science and Target Review Panel is balanced in terms of gender, scientific expertise, and has an appropriate mix of skills and experience to undertake this specific review.
- 8 Due to the technical and specialised nature of the Review, we did not seek nominations from the Ministry for Women, Te Puni Kōkiri, Ministry for Pacific Peoples, Ministry for Ethnic Communities, and Ministry of Disabled Peoples.

Remuneration

- 9 The Methane Science and Target Review Panel is classified as a Group 4 level 1 body under the Cabinet Fees Framework. Members are paid 9(2)(a) and the chair is paid 9(2)(a) (based on an eight-hour workday).

Appointment Process

- 10 The appointment process included the following elements:
 - 10.1 officials from the Ministry for the Environment and the Ministry for Primary Industries nominated individuals with suitable backgrounds in climate science, greenhouse gas emissions, and targets and budgets. Nominations were sought from Ministers and coalition partners;
 - 10.2 the longlist of individuals was assessed according to knowledge, skills and capabilities, and expertise to determine a shortlist;
 - 10.3 following consultation with Ministers, the shortlisted individuals were contacted and screened for expressions of interest and availability, as well as to determine any conflicts of interest;
 - 10.4 a skills matrix was established to assess the shortlists' potential contributions to the panel and to establish diversity considerations;
 - 10.5 Ministers finalised the panel composition and candidates were notified; and
 - 10.6 comprehensive background checks were performed based on the Public Service Commission guidelines.

Conflicts of Interest

- 11 We can confirm that appropriate enquires concerning conflicts of interest have been carried out in accordance with the Public Service Commission appointment guidelines, to identify any conflict of interest that could reasonably be identified.
- 12 Two candidates recommended for appointment have identified, actual, likely, or perceived conflicts of interest. Proposals for conflict management are identified in the candidate C.V. forms.

Communications

- 13 We propose to jointly announce the commencement of the Review on [25 June].

- 14 A press statement will be issued once the appointment of the five members of the Panel have been confirmed and accepted by the candidates. The statement will cover the terms of reference and confirm panel members, possibly with a high-level reference to their qualifications and experience. Panel members will receive the draft materials as a for your information document.

DRAFT

Recommendation

- 1 We recommend that the Committee:
 - 1.1 note the intention to make the following appointments to the Methane Science and Target Panel:

Name	Designation	Appointment/ Reappointment	Term
9(2)(g)(i)	Chair	Appointment	From 30 June 2024 up to 30 November 2024
	Member	Appointment	From 30 June 2024 up to 30 November 2024
	Member	Appointment	From 30 June 2024 up to 30 November 2024
	Member	Appointment	From 30 June 2024 up to 30 November 2024
	Member	Appointment	From 30 June 2024 up to 30 November 2024

[placeholder Authorised for lodgement]

Hon Simon Watts
Minister of Climate Change

Hon Todd McClay
Minister of Agriculture

APH Organisation Form

All sections must be completed.

Organisation and Responsible Portfolio

Methane Science and Target Review Panel

(Climate Change and Agriculture)

Brief Outline of the Functions and Responsibilities of the Methane Science and Target Review Panel

The Methane Science and Target Review was established to support the National Party and ACT New Zealand coalition agreement commitment. It is an independent Ministerial Advisory Panel that will review methane science and provide evidence-based advice on what the 2050 biogenic methane target should be to ensure no additional warming from agriculture.

Current Membership

Name	Gender Identity	Region	Ethnicities (and Iwi if applicable)	Date of appointment	Expiry date of term
9(2)(g)(i)				30 June 2024	30 November 2024
				30 June 2024	30 November 2024
				30 June 2024	30 November 2024
				30 June 2024	30 November 2024
				30 June 2024	30 November 2024

Candidate CV Form

Sections with * must be completed.

This form should be completed by, or in consultation with, the candidate where possible.

Name* (family name in upper case; include title if appropriate)	9(2)(g)(i)
--	------------

The Position

Organisation/Entity*	Methane Science and Target Review Panel
Position* (chair/member etc.)	Chair
Term*	From 30 June 2024 up to 30 November 2024
Payment* (per day /per year)	9(2)(a)

How the Candidate Meets the Needs of the Position

Skills and attributes the candidate will bring to the position* (e.g. business skills, community involvement, cultural awareness, regional perspective – as relevant to the needs of the position)	9(2)(g)(i)
Possible conflicts of interest*	
Proposals for conflict management (if applicable)	

The Candidate

Name* (family name in upper case; include title if appropriate)	9(2)(g)(i)
Address	
Ethnicity(s)	
Age range*	
Gender*	
Current or most recent Employment* (specify position and employer, include years)	
Government board appointments held* (current and previous, include years)	
Private and/or voluntary sector board appointments held* (current and previous, include years)	

9(2)(g)(i)

Qualifications and experience

(include significant work history and community involvement)



Date: [XX May] 2024

Candidate CV Form

Sections with * must be completed.

This form should be completed by, or in consultation with, the candidate where possible.

Name* (family name in upper case; include title if appropriate)	9(2)(g)(i)
--	------------

The Position

Organisation/Entity*	Methane Science and Target Review Panel
Position* (chair/member etc.)	Member
Term*	From 30 June 2024 up to 30 November 2024
Payment* (per day /per year)	9(2)(a)

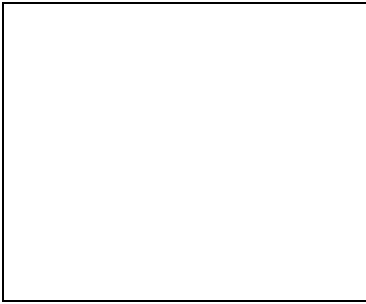
How the Candidate Meets the Needs of the Position

Skills and attributes the candidate will bring to the position* (e.g. business skills, community involvement, cultural awareness, regional perspective – as relevant to the needs of the position)	9(2)(g)(i)
Possible conflicts of interest*	
Proposals for conflict management (if applicable)	

The Candidate

Name* (family name in upper case; include title if appropriate)
Address
Ethnicity(s)
Age range*
Gender*
Current or most recent Employment* (specify position and employer, include years)
Government board appointments held* (current and previous, include years)
Private and/or voluntary sector board appointments held* (current and previous, include years)
Qualifications and experience (include significant work history and community involvement)





9(2)(g)(i)



Date: [XX May] 2024

DRAFT

Candidate CV Form

Sections with * must be completed.

This form should be completed by, or in consultation with, the candidate where possible.

Name* (family name in upper case; include title if appropriate)	9(2)(g)(i)
--	------------

The Position

Organisation/Entity*	Methane Science and Target Review Panel
Position* (chair/member etc.)	Member
Term*	From 30 June 2024 up to 30 November 2024
Payment* (per day /per year)	9(2)(a)

How the Candidate Meets the Needs of the Position

Skills and attributes the candidate will bring to the position* (e.g. business skills, community involvement, cultural awareness, regional perspective – as relevant to the needs of the position)	9(2)(g)(i)
Possible conflicts of interest*	
Proposals for conflict management (if applicable)	

The Candidate

Name* (family name in upper case; include title if appropriate)	9(2)(g)(i)
Address	
Ethnicity(s)	
Age range*	
Gender*	
Current or most recent Employment*	
Government board appointments held* (current and previous, include years)	
Private and/or voluntary sector board appointments held* (current and previous, include years)	
Qualifications and experience (include significant work history and community involvement)	

Date: [XX May] 2024

Candidate CV Form

Sections with * must be completed.

This form should be completed by, or in consultation with, the candidate where possible.

Name* (family name in upper case; include title if appropriate)	9(2)(g)(i)
--	------------

The Position

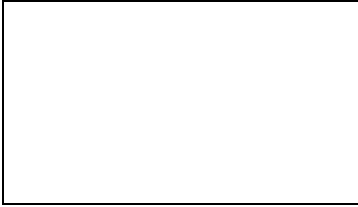
Organisation/Entity*	Methane Science and Target Review Panel
Position* (chair/member etc.)	Member
Term*	From 30 June 2024 up to 31 December 2024
Payment* (per day /per year)	9(2)(a)

How the Candidate Meets the Needs of the Position

Skills and attributes the candidate will bring to the position* (e.g. business skills, community involvement, cultural awareness, regional perspective – as relevant to the needs of the position)	9(2)(g)(i)
Possible conflicts of interest*	
Proposals for conflict management (if applicable)	

The Candidate

Name* (family name in upper case; include title if appropriate)	9(2)(g)(i)
Address	
Ethnicity(s)	
Age range*	
Gender*	
Current or most recent Employment* (specify position and employer, include years)	
Government board appointments held* (current and previous, include years)	
Private and/or voluntary sector board appointments held* (current and previous, include years)	
Qualifications and experience (include significant work history and community involvement)	



9(2)(g)(i)



Date: [XX May] 2024

DRAFT

Candidate CV Form

Sections with * must be completed.

This form should be completed by, or in consultation with, the candidate where possible.

Name* (family name in upper case; include title if appropriate)	[Title] [First & Middle Name(s)] [FAMILY NAME]
--	--

The Position

Organisation/Entity*	[Committee/Panel/Board]
Position* (chair/member etc.)	[Chair and]/[Member]
Term*	From [Day Month Year] up to [Day Month Year]
Payment* (per day /per year)	[\$[XXX] per day (based on an 8-hour day)

How the Candidate Meets the Needs of the Position

Skills and attributes the candidate will bring to the position* (e.g. business skills, community involvement, cultural awareness, regional perspective – as relevant to the needs of the position)	[Name], from [location], is a [job] and is currently [position]. [He/She/Their] was previously on the boards of [name]. [His/Her/Their] background is in [explain] with a focus on [explain]. [Name] brings [outline general] skills in the [private/public] sectors and [specific] skills.
Possible conflicts of interest*	[List]/[None identified]
Proposals for conflict management (if applicable)	[Proposal]/[Not applicable]

The Candidate

Name* (family name in upper case; include title if appropriate)	[Title] [First & Middle Name(s)] [FAMILY NAME]
Address	[Street Number and Street Name] [Suburb] [REGION] [Postcode]
Ethnicity(s)	[List]
Age range*	[XX-XX]
Gender*	[M/F]
Current or most recent Employment* (specify position and employer, include years)	[Position Name] (current)
Government board appointments held* (current and previous, include years)	[Member/Chair/Director], [Name of Committee] (time period)
Private and/or voluntary sector board appointments held* (current and previous, include years)	[Member/Chair/Director], [Name of Committee] (time period)
Qualifications and experience (include significant work history and community involvement)	<u>Qualifications, memberships, awards</u> [Title of qualification/membership/award], [Name of Awarding Body] (Year) <u>Previous work experience</u> [Position], [Business Name] (time period)

Date: [Day/Month/Year]

Appendix One: DRAFT Terms of Reference – Methane Science and Target Review

Appendix One: Draft Terms of Reference

REVIEW – TERMS OF REFERENCE [DRAFT]

Review Title	Review of the methane science and target [DRAFT]
Duration	1 July – 29 November 2024
Date issued	24 June 2024

Purpose

1. The purpose of the Advisory Group (referred to as the Panel) is to deliver an independent review of the methane science and 2050 target for consistency with no additional warming from agricultural methane emissions.
2. This should include a scientific understanding of methane and its warming impact in order to provide advice on what a biogenic methane target consistent with the principle of no additional warming would look like for New Zealand.
3. The Panel’s review will be independent of the Climate Change Commission’s review of the 2050 targets this year. It will provide the Government targeted advice to inform its response to the Commission’s advice in 2025.

Scope

4. The main output of the Panel will be a report that disseminates the findings of the review to the Government. The report will be made publicly available and should be written in plain language and be accessible to the public.
5. The report should provide the following:
 - a) background on New Zealand’s climate change targets and legislation;
 - b) overview of the concept of no additional warming, including a clear definition of what no additional warming is in the context of a biogenic methane target¹
 - c) a review of previous studies that estimate a no additional warming target for biogenic methane (including any differences between them);
 - d) an up-to-date explanation and summary of the warming impact of biogenic methane, specifically including biogenic methane from New Zealand’s agricultural sector;
 - e) a brief explanation of the global emissions scenarios relevant for determining target ranges for biogenic methane emissions;
 - f) consideration of a range of no additional warming biogenic emission reductions targets that reflect different background global emissions

¹ For the purposes of this review the biogenic methane target includes all methane greenhouse gases produced from the agriculture and waste sectors (as reported in the New Zealand Greenhouse Gas Inventory).

CLASSIFICATION

- scenarios, including a scenario that is consistent with limiting global warming to 1.5 degrees Celsius (e.g., Shared Socioeconomic Pathway 1-1.9 from the IPCC 6th Assessment report); and
- g) Estimates of biogenic methane emissions reductions needed in 2050 and 2100 to achieve and maintain a state of no additional warming from New Zealand's biogenic methane emissions relative to 2017 levels of warming.
6. In doing so, the review should consider the following:
- a) the limitations and constraints of any advice in relation to target setting;
 - b) providing a clear rationale and justification for any methodological choices and an explanation of any assumptions or limitations;
 - c) the advancements in methane science and its warming impact since the target was set in 2019;
 - d) any relevant science that was not considered during the setting of the methane target in 2019;
 - e) the latest published scientific literature, including the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (AR6); and
 - f) global scenarios of future greenhouse concentrations and associated emissions, and
 - g) what is included as biogenic methane in New Zealand.
7. The following issues are out of scope of the review:
- a) making any conclusions or recommendations that go beyond performing the scientific review and providing the evidence-based advice required by these terms of reference. For example, the advice will not cover implications of any new proposed target on the broader climate strategy. It will not try to make values-based judgements about the burden sharing responsibilities of different sectors or nations and
 - b) reviewing any other aspects of the 2050 Target as set out in s5Q of the Climate Change Response Act 2002.²

Approach

8. The review will take place from July to November. Within the four-month period, the Panel will:
- a) engage with relevant experts if they choose to, in the development of the report;
 - b) ensure an effective quality assurance process is undertaken, for example, including through an independent external review process;
 - c) where possible, provide a consensus view in its report. Where this is not possible, feedback from individual members will be captured, and considered as part of subsequent advice;
 - d) provide a process where interested parties, including iwi/Māori, can submit relevant evidence, including mātauranga Māori;

² Section 5Q of the CCRA sets out the domestic target for 2050. The 2050 target requires that net accounting emissions of greenhouse gases in a calendar year, other than biogenic methane, are zero by the calendar year beginning on 1 January 2050 and for each subsequent year.

CLASSIFICATION

- e) provide a draft report to the Minister of Agriculture and Minister of Climate Change by 1 November 2024; and
 - f) provide a final report to the Ministers by Friday 29 November 2024.
9. The review process should adhere to the following principles:
- a) rigorous - Uses the most up-to-date and comprehensive body of evidence; recognises and minimises bias; is independently reviewed as part of a quality assurance process;
 - b) inclusive - Considers many types and sources of evidence; uses a range of skills and people;
 - c) transparent - Clearly describes the research question, methods, sources of evidence and quality assurance process; communicates complexities and areas of contention; acknowledges assumptions, limitations and uncertainties, including any evidence gaps; declares personal, political and organisational interests and manages any conflicts; and
 - d) accessible - Is written in plain language; is available by the 29 November 2024; is freely available online (this will be actioned by Ministers upon receipt of the report).

Context

10. Biogenic methane, a short-lived greenhouse gas (GHG), contributes to ~48% of New Zealand's gross aggregated annual greenhouse gas emissions. Most of New Zealand's gross annual emissions of biogenic methane come from the agriculture sector (~91%), particularly from ruminant livestock. The remainder is from the waste sector (~9%).
11. New Zealand's 2050 target was set as part of the Climate Change Response (Zero Carbon) Amendment Act 2019 which amended the Climate Change Response Act 2002 (CCRA). At the same time the purposes of the CCRA were expanded to include the following purpose – “to provide a framework by which New Zealand can develop and implement clear and stable climate change policies that contribute to the global effort under the Paris Agreement to limit the global average temperature increase to 1.5° Celsius above pre-industrial levels” (see section 3(1)(aa)(i)).
12. Under the CCRA New Zealand adopted a split-gas approach to the 2050 target based on scientific evidence that biogenic methane,² as a short-lived gas, does not have to reduce to zero to limit global warming.
13. The legislated 2050 target for biogenic methane requires that New Zealand's gross emissions of biogenic methane in a calendar year are 24 - 47% less than 2017 by the calendar year beginning on 1 January 2050 and for each subsequent calendar year.
14. The Government has committed to “maintain a split-gas approach to methane and carbon dioxide through to 2050 and review the methane science and targets in 2024 for consistency with no additional warming from agricultural

methane emissions”.

15. The Minister of Climate Change and the Minister of Agriculture are seeking advice on what our biogenic methane target should be to ensure no additional warming.
16. Determining an appropriate target for New Zealand is a judgement for the Government based on a range of considerations including equity, responsibility, cost, and economy wide opportunities for emissions reductions.

Skills and experience:

17. To ensure a robust and independent review process, the Panel will need to collectively hold sufficient expertise and capability across the following topics:
 - a) climate science – including climate modelling and the warming impact of short and long-lived greenhouse gases;
 - b) New Zealand’s greenhouse gas emissions, particularly biogenic methane from the agriculture sector;
 - c) understanding of New Zealand’s climate change targets and budgets under the Climate Change Response Act.

Memberships

18. Four Panel members and a chair will be appointed by the Minister of Agriculture and Minister of Climate Change (Ministers) following approval from APH Committee and Cabinet.
19. A chair will be appointed by Ministers. The chair is expected to:
 - a) lead the work programme and ensure effective delivery of the final report;
 - b) meet with Ministers to discuss progress of the review;
 - c) liaise with the Secretariat on support required for the Panel; and
 - d) maintain an effective working relationship with Panel members.
20. A member may resign from the Panel by informing the Ministers in writing.
21. A replacement chair, or new members can be added to or removed from the Panel by Ministers, subject to Cabinet approval.

Fees

22. To be derived from the relevant Cabinet Fees Framework (Category 4).
23. Letters of appointment will detail the remuneration and reimbursement arrangements for the chair and Panel members.

Secretariat / Support:

24. The Panel will be supported by ministry officials (the Secretariat). The Secretariat will provide the following support (TBC):

- a) [The Secretariat's functions will be confirmed in the following weeks].

Deliverables

- 25. The Panel is to provide a draft report by 1 November 2024 and a final report by 29 November 2024.
- 26. Additional interim deliverables may be determined in agreement between Panel members, the Secretariat and Ministers as required.

Conflict of interests

- 27. Group members are expected to disclose any perceived or real conflicts of interest to the chair and Secretariat. A conflict-of-interest register will be maintained by the Secretariat.
- 28. Where a conflict of interest is declared a management plan will be put in place and monitored by the Chair with the support of the Secretariat.

General confidentiality requirements

- 29. If the Panel receives an official information request, they must immediately provide it to MfE/MPI via the Secretariat and advise the requester that the request was referred to MfE/MPI.

DRAFT