

**From:** Jessica Bensemenn <Jessica.Bensemenn@mfe.govt.nz>  
**Sent:** Wednesday, 31 July 2024 7:55 pm  
**To:** N.M Shadbolt [EXTERNAL] (MASSEY)  
**Subject:** Blog - let me know if you can't access

[\(1\) No additional warming, but relative to when? \(substack.com\)](#)

Note: The url for this link is <https://kapitclimate.substack.com/p/no-additional-warming-but-relative>

**Jessica Bensemenn** ([she/her](#))

*Principal Analyst | Kaitātari Mātāmua  
Market Development – Climate Mitigation*

Ministry for the Environment | Manatū Mō Te Taiao

9(2)(a) | [jessica.bensemenn@mfe.govt.nz](mailto:jessica.bensemenn@mfe.govt.nz) | [environment.govt.nz](http://environment.govt.nz)

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**From:** Methane Panel Secretariat <MethanePanelSecretariat@mfe.govt.nz>  
**Sent:** Friday, 23 August 2024 10:57 am  
**To:** N.M Shadbolt [EXTERNAL] (MASSEY); Methane Panel Secretariat; Cheryl Moir  
**Cc:** Richard Pannett; Jessica Bensemann  
**Subject:** RE: Check in on Panel actions

Kia ora Nicola

Just following up from our call today.

- An email on invoicing process will come out early next week. We would appreciate your support to work with Panel members to ensure they get this processed as quickly as possible for first invoice.
- You will get in touch directly with 9(2)(a) and 9(2)(a).
- Can you please continue to pass on any contacts/requests you get to the Methane Panel Sec email just so we have a record of who has been in touch (e.g. 9(2)(a)). We are happy for you to decide how these requests are dealt with if you're already in contact.
- On the framework
  - Overall we feel the Framework aligns with the TOR.
  - We can support content for 1a. We can provide data for 2bi from the inventory, 9(2)(g)(i).
  - We note the inclusion of content on metrics, and while this wasn't specifically in the TOR, we appreciate that the Panel has made the call to include to complete the information for the "Methane 101".
  - I didn't raise it this morning, but could you provide a bit of clarification on the inclusion of 4b – the TOR didn't mention cooling, and so we're keen to understand the rationale for its inclusion for a modelling scenario.

Many thanks, and will be in touch again in a week or so.

Jess

**Jessica Bensemann** ([she/her](#))

*Principal Analyst | Kaitātari Mātāmua*

*Market Development – Climate Mitigation*

Ministry for the Environment | Manatū Mō Te Taiao

9(2)(a) | [jessica.bensemann@mfe.govt.nz](mailto:jessica.bensemann@mfe.govt.nz) | [environment.govt.nz](http://environment.govt.nz)

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A flourishing environment  
for every generation.  
He taiao tōnui mō ngā  
reanga katoa.

---

**From:** Nicola Shadbolt <N.M.Shadbolt@massey.ac.nz>

**Sent:** Wednesday, August 21, 2024 1:28 AM

**To:** Methane Panel Secretariat <MethanePanelSecretariat@mfe.govt.nz>; Cheryl Moir <Cheryl.Moir@mfe.govt.nz>

**Cc:** Richard Pannett <Richard.Pannett@mfe.govt.nz>

**Subject:** RE: Check in on Panel actions

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### MFE CYBER SECURITY WARNING

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Hello Jessica

Thanks for your email. The panel is progressing well with the framework and determining who will do what. It is attached, the panel has requested that MfE please provide the text for 1.a and 2bi as it is material that you hold and are very familiar with. I have also forwarded you the two emails that were sent to a wide group of people including Ministers. Apologies, I had not noted that I was reaching out to 9(2)(a) .

Look forward to catching up on Friday.

Regards

Nicola

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**From:** Methane Panel Secretariat <[MethanePanelSecretariat@mfe.govt.nz](mailto:MethanePanelSecretariat@mfe.govt.nz)>

**Sent:** Tuesday, August 20, 2024 11:16 AM

**To:** Cheryl Moir <[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>; Nicola Shadbolt <[N.M.Shadbolt@massey.ac.nz](mailto:N.M.Shadbolt@massey.ac.nz)>

**Cc:** Richard Pannett <[Richard.Pannett@mfe.govt.nz](mailto:Richard.Pannett@mfe.govt.nz)>

**Subject:** Check in on Panel actions

Mōrena Nicola

Just checking in on a couple of things following our last meeting ahead of our catch up this Friday.

- Are you able to share what you have so far as a framework for the report that has been discussed with the Panel members
- We have been informed that Ministers won't meet with you at this point in the process. Instead we will provide a written update to them by the end of the month.
- Richard will be in touch this week to provide guidance on the invoicing. We are hoping to get the first two months invoices (and then paid) as soon as possible following the end of this month. We would appreciate your support to work with the Panel to get this task done.
- Can you please send through the email you got as a group that went to Ministers.
- Can you confirm you have been in touch with 9(2)(a) .
- Regarding the Danish ag pricing system, I don't think we have any further information other than what is publicly available as it has been quite widely canvassed. E.g. <https://www.carbonbrief.org/qa-how-denmark-plans-to-tax-agriculture-emissions-to-meet-climate-goals/>. We will just reinforce that we consider getting to the details of how a country is responding to agriculture emissions from a policy perspective is beyond the

scope of the TOR, and so we don't envisage the Panel spending any considerable amount of time investigating this area.

Look forward to catching up Friday,

Ngā mihi,  
Jessica

**Jessica Bensemman (she/her)**

*Principal Analyst | Kaitātari Mātāmua*

*Market Development – Climate Mitigation*

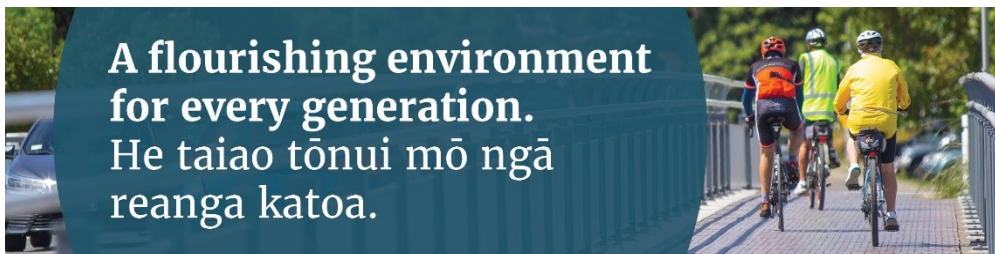
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9(2)(a) | [jessica.bensemman@mfe.govt.nz](mailto:jessica.bensemman@mfe.govt.nz) | [environment.govt.nz](http://environment.govt.nz)

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## Framework for Review of Methane Science and Targets

1. Introduction
  - a. - NZ's legislation and climate change targets
  
2. Context
  - a. Methane 101
    - i. Methane Budgets & Methane Cycle
      1. Sinks & sources – how methane behaves in the atmosphere
      2. Relationship between emissions and concentrations
    - ii. Temporal effect and measuring warming and cooling
      1. Radiative forcing of methane
      2. Step-pulse metrics, pulse-pulse metrics
      3. Old and new carbon – biogenic versus fossil fuel
      4. GWP100, GWP20 and GWP\*
  - b. Global methane emissions and responses by methane source and jurisdiction
    - i. NZ's biogenic methane emissions
  - c. Summary of advancements in science since, and omissions in, the target setting in 2019.
  
3. Definition of no additional warming in the context of a biogenic methane target
  - a. The concept of no additional warming from previous studies of targets for biogenic methane
  - b. Explanation of biogenic methane budget
    - i. Warming impact of biogenic methane from NZ's agricultural sector
  - c. Summary
  
4. Scenario modelling – reflecting different background global emissions scenarios
  - a. Biogenic methane emission reduction relative to no additional warming
  - b. Biogenic methane emission reduction relative to cooling
  
5. Estimates of biogenic methane emissions reductions needed for consistency with no additional warming from agricultural methane emissions relative to 2017 levels of warming
  - a. NZ 2050 target
  - b. NZ 2100 target

**From:** David Frame <david.frame@canterbury.ac.nz>  
**Sent:** Wednesday, 28 August 2024 10:22 am  
**To:** Jessica Bensemann; Tom Womack  
**Cc:** Cheryl Moir; Richard Pannett  
**Subject:** Re: Methane data

**MFE CYBER SECURITY WARNING**

This email originated from outside our organisation. Please take extra care when clicking on any links or opening any attachments.

Thanks.

I'll get in touch with the Barth et al team regarding the scaling.  
We have a plan for the scenarios, too.

Best  
Dave

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**From:** Jessica Bensemann <Jessica.Bensemann@mfe.govt.nz>  
**Sent:** Wednesday, 28 August 2024 9:25 am  
**To:** David Frame <david.frame@canterbury.ac.nz>; Tom Womack <Tom.Womack@mfe.govt.nz>  
**Cc:** Cheryl Moir <Cheryl.Moir@mfe.govt.nz>; Richard Pannett <Richard.Pannett@mfe.govt.nz>  
**Subject:** RE: Methane data

Mōrena Dave,

The latest inventory data is available here [New Zealand's Greenhouse Gas Inventory 1990–2022 | Ministry for the Environment](#) and you can refer to the data for ag and waste in the 'Time series Emissions by category' excel spreadsheet.

I understand from Tom (who's more involved in this work) that there will need to be a reconciliation with pre-1990 data as was done for the NZAGRC/Oxford studies. This involved PRIMAP emissions data back to 1850 scaled to fit New Zealand's GHGI data.

I think we have mentioned before, but just to reinforce we will need the data and code used in the modelling to be provided alongside the report.

Please get in touch if any further questions, or if you'd like to discuss the modelling /scenario aspects any further. Tom will be the best point of contact for you on this work.

Regards,  
Jessica

Note: the url for the link above is: <https://environment.govt.nz/publications/new-zealands-greenhouse-gas-inventory-1990-2022/>

**Jessica Bensemenn** ([she/her](#))

Principal Analyst | Kaitātari Mātāmua

Market Development – Climate Mitigation

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9(2)(a) | [jessica.bensemenn@mfe.govt.nz](mailto:jessica.bensemenn@mfe.govt.nz) | [environment.govt.nz](http://environment.govt.nz)

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**From:** David Frame <david.frame@canterbury.ac.nz>

**Sent:** Tuesday, August 27, 2024 5:25 PM

**To:** Richard Pannett <Richard.Pannett@mfe.govt.nz>

**Cc:** Jessica Bensemenn <Jessica.Bensemenn@mfe.govt.nz>; Cheryl Moir <Cheryl.Moir@mfe.govt.nz>

**Subject:** Methane data

### **MFE CYBER SECURITY WARNING**

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Hi MfE people,

Do you have a time-series of NZ's biogenic and/or agricultural methane emissions you would like us to use in our modelling? The one I have is a few years old.

Best  
Dave

This email may be confidential and subject to legal privilege, it may not reflect the views of the University of Canterbury, and it is not guaranteed to be virus free. If you are not an intended recipient, please notify the sender immediately and erase all copies of the message and any attachments.

**From:** James Coombes [EXTERNAL] (PARLIAMENT) <James.Coombes@parliament.govt.nz>  
**Sent:** Monday, 14 October 2024 12:49 pm  
**To:** Cheryl Moir; Jamie Molea [EXTERNAL] (Parliament); Ministerials; Andy Barbati-Ross; Angela Christensen; Arthur Ung; Cephas Samwini; Emma Tauti; Hamish Slack; Isabel Cahis; Jessica Bensemann; Kara Lok; Rachel Cooper; Sarah Croxford; Hemi Smiler; Mark Vink; OCE.Inbox  
**Cc:** Jessica Bensemann; Emma Tauti; Davinia Gazzard-Steele  
**Subject:** RE: CLASSIFICATION Aide Memoire: Methane science and target review – Process update

Kia ora Cheryl,

Signed BRF-5458 **attached**.

The MCC made the following comments:

- 9(2)(g)(i)
- Wants to know what the plan is post report finalisation?
- 9(2)(g)(i)

Ngā mihi,

**James Coombes (he/him) | Private Secretary – Climate Change | Office of Hon Simon Watts MP**

Minister of Climate Change

Waea Pūkoro : 9(2)(a)

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**From:** Cheryl Moir <Cheryl.Moir@mfe.govt.nz>  
**Sent:** Thursday, October 10, 2024 10:08 AM  
**To:** Jamie Molea <Jamie.Molea@parliament.govt.nz>; James Coombes <James.Coombes@parliament.govt.nz>; Ministerials <ministerials@mfe.govt.nz>; Andy Barbati-Ross <Andy.Barbati-Ross@mfe.govt.nz>; Angela Christensen <Angela.Christensen@mfe.govt.nz>; Arthur Ung <Arthur.Ung@mfe.govt.nz>; Cephas Samwini <Cephas.Samwini@mfe.govt.nz>; Cheryl Moir <Cheryl.Moir@mfe.govt.nz>; Emma Tauti <Emma.Tauti@mfe.govt.nz>; Hamish Slack <Hamish.Slack@mfe.govt.nz>; Isabel Cahis <Isabel.Cahis@mfe.govt.nz>; Jessica Bensemann <Jessica.Bensemann@mfe.govt.nz>; Kara Lok <Kara.Lok@mfe.govt.nz>; Rachel Cooper <Rachel.Cooper@mfe.govt.nz>; Sarah Croxford <Sarah.Croxford@mfe.govt.nz>; Hemi Smiler <Hemi.Smiler@mfe.govt.nz>; Mark Vink <Mark.Vink@mfe.govt.nz>; OCE.Inbox <OCE.Inbox@mfe.govt.nz>  
**Cc:** Jessica Bensemann <Jessica.Bensemann@mfe.govt.nz>; Emma Tauti <Emma.Tauti@mfe.govt.nz>; Davinia Gazzard-Steele <Davinia.Gazzard-Steele@mfe.govt.nz>  
**Subject:** CLASSIFICATION Aide Memoire: Methane science and target review – Process update

Kia ora James and Jamie,

As discussed last week, please find attached a Joint AM for MCC and MoA providing a process update on the independent review of the methane science and targets.

There are no decisions for Ministers but we will be grateful for any feedback on the proposed process detailed within.

Thanks very much,

Cheryl



## Aide Memoire: Methane science and target review – Process update

**Date submitted:** 10 October 2024

**Tracking number:** BRF-5458 / MPI AM24-0998

**Joint agencies:** Ministry for Primary Industries

**Security level:** CLASSIFICATION

**MfE priority:** Medium

Actions sought from ministers		
Name and position	Action sought	Response by
To Hon Simon Watts Minister of Climate Change	Read and note	NA
Hon Todd McClay, Minister of Agriculture		

Actions for Minister's Office staff
Return the signed briefing to Ministry for the Environment ( <a href="mailto:ministerials@mfe.govt.nz">ministerials@mfe.govt.nz</a> )

Key contacts at Ministry for the Environment			
Position	Name	Cell phone	First contact
Responsible Manager	Cheryl Moir	9(2)(a)	✓
Director	Hemi Smiler	9(2)(a)	
Key contacts at Ministry for Primary Industries			
Responsible Manager	Beth Hampton	9(2)(a)	✓
Director	Jane Chirnside	9(2)(a)	

Minister's comments

## Purpose

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This memo provides you with a process update on the *independent methane science and target review*.

## Background

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1. In June, you appointed an independent advisory panel (the Panel) to review the science of methane and provide an evidence-based report on what a target (or target range) consistent with the principle of 'no additional warming' would look like for New Zealand from a 2017 base year.
2. The Panel has been meeting regularly and are on track to deliver its draft and final report in November. There is an opportunity to meet with the Panel and/or Panel Chair ahead of provision of the draft and/or final report if desired.

## Proposed process from here

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### *By 1 Nov 2024: Receive the Panel's draft report*

3. The Panel will provide you with a draft report by Friday, 1 November 2024 in accordance with the Terms of Reference. Officials will keep the draft report in strict confidence and do not intend for it to be shared beyond the Ministry for Primary Industries and Ministry for the Environment, other than as required for finalisation purposes (peer review and editing).
4. Officials propose discussing this report with you at your regular Officials' engagement in the week commencing 4 November 2024.
5. During November, an independent peer review of the report will be conducted. If the peer review raises any points that require substantive revisions, we will advise you of these. The report will also undergo any necessary editing.
6. You may wish to agree jointly whether there is any desire to share the draft report more widely across your colleagues.

### *By 29 Nov 2024: Receive the Panel's final report*

7. The Panel will provide you with a final report by 29 November 2024 in accordance with the Terms of Reference.
8. It is intended that the final report will be accompanied by a briefing from officials providing some process advice, that seeks your direction on next steps. This advice will also highlight, at a high level, relevant sequencing and system considerations (for example, consideration of the target in relation to Nationally Determined Contribution 2 which must be set by 10 February 2025).
9. Report publication will occur, with timing and process as agreed by your offices.
10. The Climate Change Commission (the Commission) has signalled it will provide the 2050 Target Review report to the Minister for Climate Change in late November. If the timing works, both the Panel and Commission's reports could be released simultaneously in the first week of December. This approach has been tested with the

MPI AM24-0998 / MfE BRF-5458

Minister of Climate Change and agreed in principle given the number of other climate related announcements to be made later in December. You may wish to jointly discuss this approach.

**Next steps**

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11. We will work with your offices to confirm the desired publication timing, and to develop associated communications and other supporting material in support of the report's release.
12. We will also arrange a meeting(s) with the Panel and/or Panel Chair if this is considered desirable.

**9(2)(a)**

Jane Chirside  
Director  
Resources and Rural Communities  
Policy and Trade  
Ministry for the Primary Industries

Hon Todd McClay  
Minister of Agriculture

/ / 2024



Hemi Smiler  
General Manager  
Climate Mitigation  
Ministry for the Environment

Hon Simon Watts  
Minister of Climate Change

/ / 2024

**From:** Jessica Bensemenn  
**Sent:** Tuesday, 15 October 2024 11:42 am  
**To:** Nicola Shadbolt  
**Subject:** Draft Introduction section for Methane report  
**Attachments:** Attachment withheld under section 9(2)(g)(i) of the Act

Kia ora Nicola,

9(2)(g)(i)

Ngā mihi,

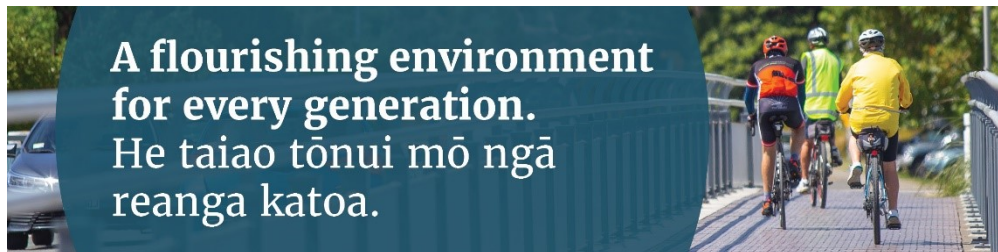
**Jessica Bensemenn** (she/her)  
*Principal Analyst | Kaitātari Mātāmua  
Market Development – Climate Mitigation*

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9(2)(a) | [jessica.bensemenn@mfe.govt.nz](mailto:jessica.bensemenn@mfe.govt.nz) | [environment.govt.nz](http://environment.govt.nz)

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**From:** Jessica Bensemenn <Jessica.Bensemenn@mfe.govt.nz>  
**Sent:** Tuesday, 15 October 2024 11:38 am  
**To:** N.M Shadbolt [EXTERNAL] (MASSEY)  
**Cc:** Cheryl Moir; Meredith Davis  
**Subject:** Re-sending in case firsts copy didn't go  
**Attachments:** Draft Background on New Zealand's climate change targets and legislation MfE provided.docx

Note: attachment can be found in the email: "Draft Introduction section for Methane report"

Re-send  
Kia ora Nicola,

As discussed, please find attached a draft version of the proposed content for the introductory section on New Zealand's climate legislation and emissions targets. Note this has not yet been through legal review which we would like to do before being finalised.

But we wanted to share it for the Panel's information purposes for your discussion tomorrow. We welcome any feedback the Panel might have on the pages.

Ngā mihi,

**Jessica Bensemenn (she/her)**  
*Principal Analyst | Kaitātari Mātāmua  
Market Development – Climate Mitigation*

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**From:** Jessica Bensemenn <Jessica.Bensemenn@mfe.govt.nz>  
**Sent:** Friday, 8 November 2024 5:08 pm  
**To:** James Coombes [EXTERNAL] (PARLIAMENT); Jamie Molea [EXTERNAL] (Parliament)  
**Cc:** Sam Buckle; Hemi Smiler; Hamish Slack; Cheryl Moir  
**Subject:** CLASSIFICATION Draft Methane Science and Targets report  
**Attachments:** Methane Report Draft.pdf

Attachment withheld under section 9(2)(g)(i) of the Act. Final version of the report is available at: <https://environment.govt.nz/assets/publications/Methane-science-and-target-review.pdf>

Kia ora James and Jamie,

Please find attached a draft of the methane science and targets report as provided by the independent panel this afternoon. We haven't had a chance to go through the report yet, but will do so next week and provide the office with any specific feedback we have, including alignment with the Terms of Reference.

As mentioned in BRF5493 last week, the draft report is now being independently peer reviewed. The Panel expect there will be changes during this process.

As discussed previously, due to the potential market sensitivity regarding this report, MfE and MPI are keeping this report to a restricted list of people. Can you please advise with whom this report will be shared with in the Ministers office?

Many thanks,  
Jessica

**Jessica Bensemenn (she/her)**  
*Principal Analyst | Kaitātari Mātāmua  
Market Development – Climate Mitigation*

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9(2)(a) | [jessica.bensemenn@mfe.govt.nz](mailto:jessica.bensemenn@mfe.govt.nz) | [environment.govt.nz](https://environment.govt.nz)

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**From:** Jessica Bensemann <Jessica.Bensemann@mfe.govt.nz>  
**Sent:** Tuesday, 12 November 2024 4:16 pm  
**To:** Jamie Molea [EXTERNAL] (Parliament)  
**Cc:** Cheryl Moir  
**Subject:** RE: CLASSIFICATION BRF 5493 – Process Update: Methane Science and Target Review

Kia ora Jamie

We understand that MPI met with their Minister on this today 9(2)(g)(i)

MPI were given direction

- To do a process update on Methane to Cabinet (this year) to get cabinet agreement to the publication process and date.
- Asked for an item on next CPMG 9 Dec.

9(2)(g)(i)

Many thanks,

**Jessica Bensemann (she/her)**

*Principal Analyst | Kaitātari Mātāmua*

*Market Development – Climate Mitigation*

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9(2)(a) | [jessica.bensemann@mfe.govt.nz](mailto:jessica.bensemann@mfe.govt.nz) | [environment.govt.nz](http://environment.govt.nz)

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**From:** Cheryl Moir <Cheryl.Moir@mfe.govt.nz>  
**Sent:** Monday, 11 November 2024 6:03 pm  
**To:** Jamie Molea [EXTERNAL] (Parliament)  
**Subject:** Re: CLASSIFICATION BRF 5493 – Process Update: Methane Science and Target Review

Thanks Jamie, received.

Cheryl

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**From:** Jamie Molea <Jamie.Molea@parliament.govt.nz>  
**Sent:** Monday, November 11, 2024 5:39:40 PM  
**To:** Cheryl Moir <Cheryl.Moir@mfe.govt.nz>; James Coombes [EXTERNAL] (PARLIAMENT) <James.Coombes@parliament.govt.nz>; Ministerials <ministerials@mfe.govt.nz>; Andy Barbati-Ross <Andy.Barbati-Ross@mfe.govt.nz>; Angela Christensen <Angela.Christensen@mfe.govt.nz>; Arthur Ung <Arthur.Ung@mfe.govt.nz>; Cephas Samwini <Cephas.Samwini@mfe.govt.nz>; Emma Tauti <Emma.Tauti@climateieb.govt.nz>; Hamish Slack <Hamish.Slack@mfe.govt.nz>; Isabel Cahis <Isabel.Cahis@mfe.govt.nz>; Jessica Bensemenn <Jessica.Bensemenn@mfe.govt.nz>; Kara Lok <Kara.Lok@mfe.govt.nz>; Rachel Cooper <Rachel.Cooper@mfe.govt.nz>; Sarah Croxford <Sarah.Croxford@mfe.govt.nz>; Hemi Smiler <Hemi.Smiler@mfe.govt.nz>; Mark Vink <Mark.Vink@mfe.govt.nz>; OCE.Inbox <OCE.Inbox@mfe.govt.nz>; Andrea Szujo <Andrea.Szuj0@mfe.govt.nz>; Becky Prebble <Becky.Prebble@mfe.govt.nz>; Danielle Ryan <Danielle.Ryan@mfe.govt.nz>; Davinia Gazzard-Steele <Davinia.Gazzard-Steele@mfe.govt.nz>; Ella Bambrough-Copeland <Ella.Bambrough-Copeland@mfe.govt.nz>; Hemi Smiler <Hemi.Smiler@mfe.govt.nz>; James Coombes [EXTERNAL] (PARLIAMENT) <James.Coombes@parliament.govt.nz>; Janine Foon <Janine.Foon@mfe.govt.nz>; Katherine Wilson <Katherine.Wilson@mfe.govt.nz>; Mark Vink <Mark.Vink@mfe.govt.nz>; Martin Workman <martin.workman@mfe.govt.nz>; Ministerials <ministerials@mfe.govt.nz>; Moira Kelling <Moira.Kelling@mfe.govt.nz>; Nadeine Dommissse <Nadeine.Dommissse@mfe.govt.nz>; OCE.Inbox <OCE.Inbox@mfe.govt.nz>; Sam Buckle <Sam.Buckle@mfe.govt.nz>; Simon King <Simon.King@mfe.govt.nz>; Stephen Goodman <Stephen.Goodman@mfe.govt.nz>; Jonny Flockton [EXTERNAL] (Parliament) <jonny.flockton@parliament.govt.nz>  
**Cc:** Jessica Bensemenn <Jessica.Bensemenn@mfe.govt.nz>; Davinia Gazzard-Steele <Davinia.Gazzard-Steele@mfe.govt.nz>; Katie Mattera <Katie.Mattera@mfe.govt.nz>; Daniel Rimmer <Daniel.Rimmer@mfe.govt.nz>  
**Subject:** RE: CLASSIFICATION BRF 5493 – Process Update: Methane Science and Target Review

Hi team

Find attached signed briefing noting this. The Minister has indicated a preference for the review to align with the CCC 2050 advice, and publication ideally before the CCC release. 9(2)(g)(i)

Thanks  
Jamie

**From:** Cheryl Moir <Cheryl.Moir@mfe.govt.nz>  
**Sent:** Tuesday, 5 November 2024 9:51 pm  
**To:** James Coombes [EXTERNAL] (PARLIAMENT); Jamie Molea [EXTERNAL] (Parliament); Ministerials; Andy Barbati-Ross; Angela Christensen; Arthur Ung; Cephas Samwini; Emma Tauti; Hamish Slack; Isabel Cahis; Jessica Bensemann; Kara Lok; Rachel Cooper; Sarah Croxford; Hemi Smiler; Mark Vink; OCE.Inbox; Andrea Szujo; Becky Prebble; Danielle Ryan; Davinia Gazzard-Steele; Ella Bambrough-Copeland; Hemi Smiler; James Coombes [EXTERNAL] (PARLIAMENT); Jamie Molea [EXTERNAL] (Parliament); Janine Foon; Katherine Wilson; Mark Vink; Martin Workman; Ministerials; Moira Kelling; Nadeine Dommissie; OCE.Inbox; Sam Buckle; Simon King; Stephen Goodman  
**Cc:** Jessica Bensemann; Davinia Gazzard-Steele; Katie Mattera; Daniel Rimmer  
**Subject:** CLASSIFICATION BRF 5493 – Process Update: Methane Science and Target Review  
**Attachments:** B24-0679 BRF-5493 - Process update - Methane Science and Target Review (FINAL DRAFT).pdf; B24-0679 BRF-5493 - Process update - Methane Science and Target Review (FINAL DRAFT).docx

Kia ora James and Team,

In response to the Minister’s queries below, and following his direction from Officials on Monday, please find attached BRF 5493 Process Update: Methane Science and Target Review. I understand you have discussed this with MoAs office and were expecting it – this has also gone to MoAs Office this evening.

Please reach out with any questions or concerns.

Ngā mihi,

Note: this email is in response to the email: "Email\_ Aide Memoire Methane science and target review – Process update (BRF-5458)"

Cheryl

**Cheryl Moir (she/her)**

*Manager, Land Use and Removals*

*Climate Change Mitigation and Resource Efficiency*

Ministry for the Environment | Manatū Mō Te Taiao

9(2)(a) | [cheryl.moir@mfe.govt.nz](mailto:cheryl.moir@mfe.govt.nz) | [mfe.govt.nz](http://mfe.govt.nz)



Ministry for the  
**Environment**  
Manatū Mō Te Taiao



Priority – High

Security Level – CLASSIFICATION



Ministry for the  
**Environment**  
Manatū Mō Te Taiao

Ministry for Primary Industries  
Manatū Ahu Matua



**To:** Hon Todd McClay, Minister of Agriculture  
Hon Simon Watts, Minister of Climate Change  
**From:** Julie Collins, Deputy-Director General, Policy and Trade, Ministry for Primary Industries  
Sam Buckle, Deputy Chief Executive, Climate Change Mitigation and Resource Efficiency, Ministry for the Environment

## Process update: Methane Science and Target Review

<b>Date</b>	5 November 2024	<b>Reference</b>	MPI: B24-0679 MFE: BRF-5493
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<b>Decision required</b>	<b>Date decision required by</b>
YES <input checked="" type="checkbox"/> / NO <input type="checkbox"/>	19 November 2024

### Purpose

- The final Methane Science and Target Review report (the methane report) is due 29 November 2024. This briefing provides you with an overview of potential process following receipt of the report, sets out interactions with other climate deliverables, and provides an accompanying communication approach.

### Background

- New Zealand has a legislated emissions reduction target for 2050 that has two components:
  - net zero emissions of all greenhouse gas (GHG) emissions other than biogenic methane by 2050; and
  - 24 to 47 per cent reduction below 2017 biogenic methane emissions by 2050, including 10 per cent reduction below 2017 biogenic methane emissions by 2030.
- In June of this year, Cabinet appointed an independent panel (the Panel) to review the science of methane, and the 2050 target for consistency with no additional warming [APH-24-MIN-0111] – hereafter referred to as the methane report. The Panel was not asked to provide any conclusions or recommendations that go beyond performing the scientific review and providing the evidence-base required by the terms of reference. Target setting remains a decision for the Government as it is based on a range of judgements and considerations<sup>1</sup>.

<sup>1</sup> Including equity, responsibility, cost, and economy wide opportunities for emissions reductions.

3. The Climate Change Commission (the Commission) is also currently reviewing the 2050 targets (including review of whether emissions from international shipping and aviation should be included in the 2050 target) and is developing advice on emissions budget four. We expect the Commission to provide this advice to the Minister of Climate Change in late November, which would require tabling in Parliament in the first week of December.
4. Both the methane report, and the Commission’s advice, will inform the Government’s response to the Commission’s advice – as the Minister of Climate Change has a legislated obligation under the Climate Change Response Act 2002 (CCRA) to respond to the Commission’s advice within twelve months of receiving it.<sup>2</sup>

### **Publication of the methane report**

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5. We understand Ministers would like to publish the methane report ahead of the Commission’s 2050 review. Publication of the final methane report is subject to agreement between your offices.
6. The draft and final methane reports will likely be market sensitive, and officials recommend applying protocols for market sensitive announcements. Accordingly, we advise against publishing it within the two-week period before the next NZ ETS auction, scheduled for 4 December. Due to the expected timing of receiving the Commission’s advice, this means that the window to publish it ahead of the Commission’s report could be less than 24 hours.
7. There will be high levels of public interest in the methane report. Ministers can expect questions about how they intend to respond to it, and specifically whether the methane component of the target will change – which we do not recommend you comment on at this time.
8. Instead, we recommend communications immediately following the report’s release focus on the process for considering the methane report’s recommendations, as you will not yet have had time to consider the methane report or the Commission’s advice – and the system interactions associated with these.
9. 9(2)(f)(iv) [Redacted]

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<sup>2</sup> In formally responding to the Commission, the Minister of Climate Change needs to state reasons for any departure from the Commission’s recommendations and, must make the response publicly available and present a copy to the House of Representatives no later than 10 working days after it has been provided to the Commission.

## Potential process to respond to the report

10. Once you receive the reports we will provide you with a summary of, and initial advice on, their findings. We will provide you with this as quickly as possible, ideally to support your ability to take it into consideration when setting NDC 2 – which per the UN deadline, must be communicated by 10 February 2025.
11. NDC 2, which covers 2031-2035, must be a progression on the NDC 1 target to reduce net emissions more than 50 percent below gross 2005 levels by 2030; the level of abatement expected from methane will be of relevance to this. See **Appendix One** for some key milestones/activities that may be of relevance to Ministers' consideration of the methane component of the 2050 target.
12. The advice we provide you will support the Minister of Climate Change's ability to formally respond to the Commission's reports, as required by the legislation (paragraph 4 refers). 9(2)(f)(iv)  
[Redacted]
13. Cabinet approval of the Minister of Climate Change's response to the Commission's review will be required. This would also be an opportunity to gain your colleague's endorsement of the next steps to be taken as part of the process – see next section.

14. 9(2)(h) [Redacted]

[Redacted]

9(2)(f)(iv) [Redacted]

[Redacted]

<sup>3</sup> Other legislative changes may also be required, depending on the implications of any such decision.

- b) 9(2)(f)(iv) [Redacted]

[Redacted]

[Redacted]

[Redacted]

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**Next steps**

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- 17. You will receive the draft of the methane report on 8 November, and the final by 29 November. We expect there will be high interest in the draft of the methane report, however, we recommend that it is not shared widely – particularly given its potential market sensitivity.
- 18. Note that during November, to finalise the methane report there will be:
  - a) a technical peer review of the methane report, including a separate peer review of the modelling section; and
  - b) opportunity for the Panel to respond to the peer reviews, including to make any necessary changes to the report.
- 19. Once we have your direction, we will provide you with talking points to support methane report publication. We will also work with your offices to support publication arrangements, including to work through market sensitivity considerations, and to support the delivery of an oral item at Cabinet should you wish to formally update your colleagues on the report’s findings and next steps.

## Recommendations

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20. It is recommended that you:

- a) **Agree** to provide joint direction on your expectations for the process following receipt of the final independent *Methane Science and Target Review* report.

YES / NO

9(2)(a)

Julie Collins  
Deputy-Director General  
Policy and Trade  
Ministry for the Primary Industries

Hon Todd McClay  
Minister of Agriculture

/ / 2024



Sam Buckle  
Deputy Chief Executive  
Climate Change Mitigation and  
Resource Efficiency  
Ministry for the Environment

Hon Simon Watts  
Minister of Climate Change

/ / 2024

## Appendix One: Overview of some key climate milestones

	Milestone
Q4 2025	<b>Week of 4 Nov:</b> Nationally determined contribution (NDC) 2 advice on target options (to Minister of Climate Change)
	<b>Week of 4 Nov:</b> Climate Change Commission advice on <i>Report on the potential domestic contribution to Aotearoa New Zealand's second NDC</i> tabled and made public
	<b>8 Nov:</b> Independent Advisory Methane Panel to provide draft report to Ministers
	<b>11 – 22 Nov:</b> COP 29 Baku
	<b>Over Nov:</b> Targeted engagement on NDC2, including with the primary sector
	<b>29 Nov:</b> Independent Advisory Methane Panel to provide final report to Ministers
	<b>Early Dec:</b> Expected release of Climate Change Commission review of 2050 target and advice on Emissions Budget 4
	<b>4 Dec:</b> NZ ETS Auction
	<b>Week of 9 Dec:</b> The second emissions reduction plan (ERP2) launched
	<b>18 Dec:</b> Biennial Transparency Report on NDC1 released
	<b>By 31 Dec:</b> Pass the Climate Change Response (Emissions Trading Scheme Agricultural Obligations) Amendment Bill
	<b>By 31 Dec:</b> Standardised farm-level methodology published
Q1 2025	
	<b>10 Feb:</b> NDC2 due with the United Nations Framework Convention on Climate Change (UNFCCC) Secretariat
	<b>19 Mar:</b> NZ ETS auction
Q2 2025	<b>Jun 18:</b> NZ ETS auction
Q3 2025	<b>Sep 10:</b> NZ ETS auction
Q4 2025	<b>November:</b> COP 30
	<b>Early Dec:</b> Government response to the CCC review of the 2050 target due
	<b>Dec 3:</b> NZ ETS auction
	<b>By 31 Dec:</b> EB4 to be set by Minister of Climate Change

**From:** Cheryl Moir <Cheryl.Moir@mfe.govt.nz>  
**Sent:** Monday, 18 November 2024 5:25 pm  
**To:** Jonny Flockton [EXTERNAL] (Parliament); Jamie Molea [EXTERNAL] (Parliament)  
**Cc:** Jessica Bensemann; Andrea Szujo; Becky Prebble; Danielle Ryan; Davinia Gazzard-Steele; Ella Bambrough-Copeland; Hemi Smiler; James Coombes [EXTERNAL] (PARLIAMENT); Jamie Molea [EXTERNAL] (Parliament); Janine Foon; Karmyn Lyons; Katherine Wilson; Mark Vink; Martin Workman; Ministerials; Moira Kelling; Nadeine Dommissie; OCE.Inbox; Sam Buckle; Simon King; Stephen Goodman; Ministerials; Meredith Davis; Letisha Nicholas; Daniel Rimmer; Amy Norrish; Jazz Puriri; Katie Mattera; Stuart Malthus; Juliet Nelson; Tom Womack  
**Subject:** FW: CLASSIFICATION \*\*BAG\*\* - Draft Cabinet paper – Methane Science and Target Review: Release of the final report | CLASSIFICATION  
**Attachments:** DRAFT Cabinet paper - Methane Review Dec 2024 MINS - FINAL FOR DISPATCH.pdf; DRAFT Cabinet paper - Methane Review Dec 2024 MINS - FINAL FOR DISPATCH.docx; Briefing template - Draft Cabinet paper Nov 2024 - FOR DISPATCH.pdf; Briefing template - Draft Cabinet paper Nov 2024 - FOR DISPATCH.docx  
**Importance:** High

Kia ora Jonny and Jamie,

Please find attached the briefing '*Draft Cabinet paper – Methane Science and Target Review: Release of the final report*' and the associated draft CBC paper.

This has also been dispatched to MoA through MPI.

Ngā mihi,

Cheryl

**Cheryl Moir (she/her)**

*Manager, Land Use and Removals*

*Climate Change Mitigation and Resource Efficiency*

Ministry for the Environment | Manatū Mō Te Taiao

9(2)(a) | [cheryl.moir@mfe.govt.nz](mailto:cheryl.moir@mfe.govt.nz) | [mfe.govt.nz](http://mfe.govt.nz)



Ministry for the  
**Environment**  
Manatū Mō Te Taiao



Priority – High

Security Level – CLASSIFICATION

Ministry for Primary Industries  
Manatū Ahu Matua



Ministry for the  
**Environment**  
Manatū Mō Te Taiao

**To:** Hon Todd McClay, Minister of Agriculture  
Hon Simon Watts, Minister of Climate Change

**From:** Jane Chirnside, Director, Resources and Rural Communities, Ministry for the Primary Industries  
Hemi Smiler, General Manager, Mitigation Policy, Ministry for the Environment

## Draft Cabinet paper – Methane Science and Target Review: Release of the final report

<b>Date</b>	18 November 2024	<b>Reference:</b>	MPI: B24-0715 MfE: BRF-5495
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Decision required	Date decision required by
YES <input checked="" type="checkbox"/> / NO <input type="checkbox"/>	20 November 2024

### Purpose

- This briefing seeks your direction on a draft Cabinet paper – *Methane Science and Target Review: Release of the final report (Appendix 1)*.

### Context

- On 8 November 2024, the independent advisory panel (the Panel) provided their draft report to Ministers and relevant officials. They will provide the final report by 29 November.
- The Climate Change Commission (the Commission) is currently expected to provide their review of the 2050 target and the fourth emissions budget to the Minister of Climate Change on 21 November. Upon receipt of this advice, the Minister of Climate Change must table a copy with Parliament within 10 working days of receiving it.

### Draft Cabinet paper

- We understand that you would like to take the methane review report through Cabinet ahead of publication in early December, and that publication is to occur before that of the Commission. Our current understanding is that the Commission's report, if delivered on 21 November, must be presented to the House by 5 December (with the Commission likely making this public soon after, but no later than 19 December).

4. Due to potential market sensitivity of the report, as the ETS auction is scheduled for 4 December, it is recommended that the report is not released before, or on the day of, the auction. Conforming to these constraints would mean aiming to release the methane review report the morning of 5 December, with the Commission's report being tabled later that day.
5. To support your ability to release the report before the Commission's, following consultation with offices, we recommend you work towards the following milestones:
  - a. Cabinet Business Committee (CBC) – **25 November**
  - b. Cabinet – **2 December**
6. To meet these Cabinet dates, the CBC paper has been drafted based on the draft report. If the final report departs significantly from the draft, we will update the Cabinet paper ahead of Cabinet. The final report will be appended to the Cabinet paper.
7. The appended draft Cabinet paper informs Cabinet that the Panel have completed their report, and asks Cabinet to agree to you both publicly releasing the report on a to-be-confirmed date ahead of the Commission's report.
8. If you wish for the paper to include a date for when you will report back to Cabinet with a proposal to confirm the methane component of the 2050 target, we seek your direction on timeframes to include [B24-0679 / BRF-5493 refers]. This is currently square bracketed in the draft CBC paper.
9. There are short timeframes to publicly release the final report in early December. To support meeting these, we propose the following steps:

Date	Step
18 November	Ministers receive Cabinet paper
20 November	Ministers feedback provided to officials
22 November	Late lodgement
25 November	CBC consideration
2 December	Cabinet consideration
TBC December	Final methane report publicly released
Estimated 5 December	The Commission's 2050 target review tabled in Parliament and publicly released

## Recommendations

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10. It is recommended that you:

- a) **Agree** to provide feedback on the draft *Cabinet paper – Methane Science and Target Review: Release of the final report and next steps* attached as **Appendix One**.

YES / NO

9(2)(a)

Jane Chirside  
 Director  
 Resources and Rural Communities  
 Policy and Trade  
 Ministry for the Primary Industries

Hon Todd McClay  
 Minister of Agriculture  
 / / 2024



Hemi Smiler  
 General Manager  
 Mitigation Policy  
 Climate Change Mitigation and Resource  
 Efficiency  
 Ministry for the Environment

Hon Simon Watts  
 Minister of Climate Change  
 / / 2024

[MPI Reference]

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**Appendix One: DRAFT Cabinet paper**

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CLASSIFICATION

Office of the Minister of Agriculture

Office of the Minister of Climate Change

Cabinet Business Committee

## **Methane Science and Target Review: Release of the final report**

### **Proposal**

- 1 We propose to publicly release the final methane science and target review report on **XYZ date**.

### **Relation to Government priorities**

- 2 This supports the New Zealand National Party and ACT New Zealand coalition agreement 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 June 2024, Cabinet confirmed the appointment of an independent advisory panel (the Panel) to review the science of methane and provide an evidence-based report on what a target (or range) consistent with the principle of ‘no additional warming’ would look like for New Zealand, from a 2017 base year [CAB-24-MIN-0215 refers].
- 4 The Panel provided us with a draft report on 8 November 2024, and will provide a final Methane Science and Target report (the report) on 29 November 2024.
  - 4.1 The Climate Change Commission (the Commission) is also undertaking a review of the legislated 2050 target<sup>1</sup>, which we anticipate will be made public in early December. We intend to publish the independent panel’s methane report ahead of this.
- 5 The biogenic methane target is a component of the 2050 target legislated in the Climate Change Response Act 2002 (CCRA). Any changes to the 2050 target will require amendments to the CCRA.

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<sup>1</sup> New Zealand has a legislated emissions reduction target for 2050 that has two components:

- net zero emissions of all greenhouse gas (GHG) emissions other than biogenic methane by 2050; and
- 24 to 47 per cent reduction below 2017 biogenic methane emissions by 2050, including 10 per cent reduction below 2017 biogenic methane emissions by 2030.

**Key findings from the Panel’s draft report**

- 6 Key findings from the draft report are as follows. All of the report is written from an assumption that the international targets are fixed, and not likely to move:
  - 6.1 if the rest of the world were to rapidly increase its climate policies to meet the 1.5 degrees warming Paris goal, then reducing New Zealand’s biogenic methane emissions by **24 percent by 2050** would satisfy the goal of achieving no additional warming on 2017 levels by 2050; and
  - 6.2 based on current global levels of effort and commitment, which is not aligned to the Paris goal, a reduction of **10 percent by 2050** on 2017 levels would be required to satisfy this goal<sup>2</sup>.
- 7 The report is currently being peer reviewed, including specific review of the application and accuracy of modelling, and so the draft findings summarised above are subject to change. If necessary, we will update this paper before consideration at Cabinet to reflect any material changes between the draft and final.

**Next steps**

- 8 We intend to publish the final methane report **on XYZ date,** prior to tabling the Commission’s report with Parliament. The report will be an input to the Minister of Climate Change’s formal response to the Commission’s advice.
- 9 We will report back to Cabinet no later than **[to be agreed between Minister of Agriculture and Minister of Climate Change]** with a proposal to clarify (change or otherwise confirm) the methane component of New Zealand’s domestic 2050 target.

10 9(2)(g)(i)



<sup>2</sup> If global methane concentrations are rising, the radiative forcing caused by every tonne of methane emitted by New Zealand decreases. This means that the amount of biogenic methane reduction needed to meet the condition of no additional warming is strongly dependent on the action taken globally

<sup>3</sup> 9(2)(g)(i)



9(2)(g)(i)

### **Cost-of-living Implications, Population and Human Rights Implications**

- 11 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 once the Panel's and Commission's findings are considered.

### **Financial Implications**

- 12 No new funding will be sought for any decisions outlined in this paper.

### **Legislative Implications**

- 13 Changing the biogenic methane target, if that is the conclusion of the Government response, would require amendments to the CCRA. Other changes may also be required to account for system implications, for example, to emissions budgets.

### **Impact Analysis**

- 14 We are not proposing any policy changes at this stage. A Regulatory Impact Statement and Climate Implications of Policy Assessment will be undertaken to support future proposals.

### **Use of External Resources**

- 15 Cabinet appointed an independent panel of experts to conduct the review.<sup>4</sup> The total cost for the Panel was budgeted at \$250,000 for a term of approximately five months from 1 July to 30 November 2024.<sup>5</sup> The Panel was funded through the Ministry for the Environment and the Ministry for Primary Industries' departmental Financial Year 24/25 funding.

### **Consultation**

- 16 TBC

### **Communications**

- 17 We expect there will be high levels of public interest in the methane report.

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<sup>4</sup> Nicola Shadbolt (Chair); Professor Bill Collins; Professor David Frame; Dr Sara Mikaloff-Fletcher; and Associate Professor Laura Revell.

<sup>5</sup> Members were paid \$952 per day and the Chair was paid \$1,265 per day (as per the Cabinet fees Framework).

## Proactive Release

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

## Recommendations

We recommend that the Committee:

- 1 **note** that, in June 2024, Cabinet noted the intention of the Minister of Agriculture and the Minister of Climate Change to appoint an independent advisory group to [CAB-24-MIN-0215 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;
- 2 **note** the independent advisory group has provided their draft Methane Science and Target Review report, and will provide the final version of the report to the Minister of Agriculture and the Minister of Climate Change on 29 November;
- 3 **agree** to the Minister of Agriculture and the Minister of Climate Change publicly releasing the independent panel's report on XYZ date ahead of the Climate Change Commission's report;
- 4 **note** the Minister of Climate Change will be tabling the Climate Change Commission's review of New Zealand's legislated 2050 target on 5 December;
- 5 **invite** the Minister of Agriculture and Minister Climate Change to report back to Cabinet by X date to clarify the methane component of New Zealand's legislated 2050 climate change target.

**Placeholder only** [Authorised for lodgement]

Hon Todd McClay

Minister for Agriculture

Hon Simon Watts

Minister of Climate Change

**From:** Jessica Bensemam  
**Sent:** Tuesday, 19 November 2024 4:22 pm  
**To:** Beth Hampton; Cheryl Moir; Meredith Davis  
**Cc:** Tom Womack  
**Subject:** RE: CLASSIFICATION Draft email feedback for the Panel | CLASSIFICATION

Just letting you know I have uploaded the feedback to our shared restricted folder, and Nicola has viewed the document. For info, we have also asked that they remove reference to the MfE coastal hazard guidance as predominantly using one of the scenarios, as there is a difference in using scenarios for mitigation versus adaptation purposes.

Cheers  
Jessica

**Jessica Bensemam (she/her)**  
*Principal Analyst | Kaitātari Mātāmua  
Market Development – Climate Mitigation*

Ministry for the Environment | Manatū Mō Te Taiao  
9(2)(a) | [jessica.bensemam@mfe.govt.nz](mailto:jessica.bensemam@mfe.govt.nz) | [environment.govt.nz](http://environment.govt.nz)

Please note I work part-time (25 hours per week) split over Monday to Friday. This means there may be some delay in my response to your email.



*Ministry for the*  
**Environment**  
*Manatū Mō Te Taiao*



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**From:** Beth Hampton <Beth.Hampton@mpi.govt.nz>  
**Sent:** Tuesday, 19 November 2024 11:13 am  
**To:** Jessica Bensemam <Jessica.Bensemam@mfe.govt.nz>; Cheryl Moir <Cheryl.Moir@mfe.govt.nz>; Meredith Davis <Meredith.Davis@mfe.govt.nz>  
**Cc:** Tom Womack <Tom.Womack@mfe.govt.nz>  
**Subject:** RE: CLASSIFICATION Draft email feedback for the Panel | CLASSIFICATION

Thanks!

---

**From:** Jessica Bensemenn <[Jessica.Bensemenn@mfe.govt.nz](mailto:Jessica.Bensemenn@mfe.govt.nz)>  
**Sent:** Tuesday, November 19, 2024 11:05 AM  
**To:** Beth Hampton <[Beth.Hampton@mpi.govt.nz](mailto:Beth.Hampton@mpi.govt.nz)>; Cheryl Moir <[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>; Meredith Davis <[Meredith.Davis@mfe.govt.nz](mailto:Meredith.Davis@mfe.govt.nz)>  
**Cc:** Tom Womack <[Tom.Womack@mfe.govt.nz](mailto:Tom.Womack@mfe.govt.nz)>  
**Subject:** RE: CLASSIFICATION Draft email feedback for the Panel | CLASSIFICATION

Thanks for coming back so quickly Beth – I meant at some point next week – I’ll clarify – which we can work through with Nicola as they’re doing final refinements. I have the feeling the results/discussion section will already look quite different, so it will be good for us to at least see what they’ve done there in the meantime. I’ll chat to Tom about the experiment reference and get that cleared up.

Thanks again.

**Jessica Bensemenn** ([she/her](#))  
*Principal Analyst | Kaitātari Mātāmua  
Market Development – Climate Mitigation*

Ministry for the Environment | Manatū Mō Te Taiao  
9(2)(a) | [jessica.bensemenn@mfe.govt.nz](mailto:jessica.bensemenn@mfe.govt.nz) | [environment.govt.nz](http://environment.govt.nz)

Please note I work part-time (25 hours per week) split over Monday to Friday. This means there may be some delay in my response to your email.



---

**From:** Beth Hampton <[Beth.Hampton@mpi.govt.nz](mailto:Beth.Hampton@mpi.govt.nz)>  
**Sent:** Tuesday, 19 November 2024 10:51 am  
**To:** Jessica Bensemenn <[Jessica.Bensemenn@mfe.govt.nz](mailto:Jessica.Bensemenn@mfe.govt.nz)>; Cheryl Moir <[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>; Meredith Davis <[Meredith.Davis@mfe.govt.nz](mailto:Meredith.Davis@mfe.govt.nz)>  
**Cc:** Tom Womack <[Tom.Womack@mfe.govt.nz](mailto:Tom.Womack@mfe.govt.nz)>  
**Subject:** RE: CLASSIFICATION Draft email feedback for the Panel | CLASSIFICATION

Minor tweaks below and some queries in green

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**From:** Jessica Bensemann <[Jessica.Bensemann@mfe.govt.nz](mailto:Jessica.Bensemann@mfe.govt.nz)>

**Sent:** Tuesday, November 19, 2024 10:44 AM

**To:** Beth Hampton <[Beth.Hampton@mpi.govt.nz](mailto:Beth.Hampton@mpi.govt.nz)>; Cheryl Moir <[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>; Meredith Davis <[Meredith.Davis@mfe.govt.nz](mailto:Meredith.Davis@mfe.govt.nz)>

**Cc:** Tom Womack <[Tom.Womack@mfe.govt.nz](mailto:Tom.Womack@mfe.govt.nz)>

**Subject:** RE: CLASSIFICATION Draft email feedback for the Panel | CLASSIFICATION

Hi Beth – please find in yellow some additional points or changes to your version from last night. We’re just awaiting some feedback from our adaptation team on the reference to a scenario’s use in the coastal hazard guidance. Can you please confirm if you are ok with the changes below, and once we get back from adaptation we can send off to Nicola.

Regards  
Jessica

Kia ora Nicola,

Thank you for providing your draft report on the 8 Nov, which we understand is currently undergoing Peer Review. We have completed a review against the terms of reference and have the following feedback for your consideration. We understand the draft has continued to be refined, particularly regarding the results and discussions sections. We would appreciate a chance to have another viewing of the report before it is finalised to carry out another review of any new content in the week before it is due [that would be this week? Do you mean: ahead of it being finalised no later than 29 Nov?]. This will also enable us to support Ministers’ review of the report once finalised.

#### Overall

- It is not always clear what base year reductions are relative to. To support accessibility, it would be useful if this could be made clearer, particularly given in some places it is relative to 2017 and not in others (e.g., is the 8.1% referenced on page 39 relative to 2017 or 2022 levels?).
- The commentary on whether net-zero carbon and NAW (and/or whether NAW that takes into account delayed methane-induced warming resulting from oceanic thermal inertia, and net-zero carbon) are equivalent concepts, or not, could also be made clearer.
- Where referencing cuts achieving no additional warming in results, ensure this is caveated by ‘from New Zealand biogenic methane emissions’, given that for particular scenarios this is achieved where global warming is still much higher. Readers could interpret the results as meaning no additional warming globally.

#### Introduction

- The statement on pg. 3 "Accordingly, NZ is striving to monitor and mitigate its own methane emissions situation consistent with meeting the legislative requirements, including no additional warming from agricultural emissions by 2050" is incorrect. The CCRA does not in any part include reference to ‘no additional warming from agriculture emissions by 2050’.

#### Panel Approach

- NA

#### New Zealand legislation, targets and reporting

- Re: pg. 7: "NZ's Greenhouse Gas Inventory presents all gases as CO2 equivalents (CO2-e). To obtain CO2-e values, methane emissions (in kilotonnes, kt) are multiplied by their 100-year global warming potential of 28 (see Frequently Asked Questions)" and "Unfortunately, despite NZ legislation calling out this difference, the Greenhouse Gas Inventory report presents methane emissions as CO2 equivalents, as this is required for international reporting. The report provides CO2-e by sector and by gas, the sector amount combines all gases and the gas amount includes all sectors. To determine biogenic methane emissions specifically it is necessary to back calculate the numbers from breakdowns provided in the body of the report. This review focuses on biogenic methane, so reported CO2e values from the National Inventory Report have been converted to methane emissions throughout.", note that while the GHGI inventory does present methane

emissions in CO2 equivalent, it also presents methane in kt of methane in the common reporting output tables (which are freely accessible).

- Pg. 10 Reference to 'experiment' of IAM. The terminology 'experiment' doesn't match what this was in practice. 9(2)(g)(i) [can you be more explicit about what it was in practice or provide a link?]
- Pg. 10 states that "Additional sources of information were also considered as part of the decision-making process for setting the biogenic methane target, though no national economic impact report was sought from the Treasury. Evidence that was sought included evidence related to the achievability of the target as discussed in the Biological Emissions Reference Group (BERG) Report (2018), research commissioned by the Parliamentary Commissioner for the Environment (PCE) on the contribution of methane emissions from NZ livestock to global warming (produced by the New Zealand Agricultural Greenhouse Gas Research Centre), and consideration of technological advancements, scientific advice and New Zealand's national circumstances". For clarity, economic analysis was carried out as part of consultation of the Zero Carbon Bill. [Economic analysis for the proposed Climate Change Response \(Zero Carbon\) Amendment Bill | Ministry for the Environment](#). Reference to this was also included in the Cabinet paper that supported the Bill (ie, *Following consultation with my Ministerial colleagues, and consideration of economic impacts, technological advancements, and scientific advice I recommend that the Bill includes a 2050 target that specifies the reductions of biogenic methane that will be required by 2030 and 2050.*)

#### Methane Science (Sources/sinks Methane in Context / Role of methane as a GHG)

- NA

#### Methane Targets: achieving no additional warming

- Scenarios: The scenarios in boxes (table one) are not consistent with those in the results (table two) – if using more scenarios in results please ensure they are explained. Please also provide additional commentary on the likelihood of various scenarios including throughout the results and discussion. Reference is made to SSP5-8.5 being used in MFE Coastal hazards and climate change guidance – this is because XXX (*just getting wording from our adaptation team*).
- To support accessibility and understanding of the report, given that inclusion of per annum reductions was not explicitly requested in the TOR, it may be useful to clarify why this was included (including to reduce risks of confusion between equivalence of 1%pa and 1% difference in the target relative to 2017)
- Pg. 33 states "If the MEF satisfies the no additional warming on 2017 levels criterion in 2050 or 2100, the cell is clear, if the MEF fails the test, i.e. there is warming above 2017 levels under that MEF under the global scenario, by the date in the cell then the cell is shaded grey." Can you please expand to clarify the nuance and limitations of this approach about how the global scenarios are applied, and how this relates to the global temperature's they achieve by the end of the century.
- The TOR asks for "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". The original intent behind this part of the TOR was to quantify what reductions would be needed in 2050 to achieve a state of no additional warming and what further reductions may be required by 2100 to maintain this state. While we accept that what the Panel has done is a reasonable interpretation of the TOR, if possible in the time available, we consider it would be beneficial to also include analysis that is better aligned with the original intent.
- The report presentation of results is tables based on solving equations to determine if NAW is achieved in 2050 or 2100 based on a range of reduction scenarios. This requires choices of target reductions used (5,10, 15, 20% and 24, 35, 47%). To support accessibility, it would be helpful to:
  - Clarify rationale for choice of targets in the table
  - Include explanation of why the Panel has decided to solve that way, rather than solving for the level of target (or if both approaches have been undertaken, include results for both)

- Table 3 – more decimal places needed as some of the figures don't seem to align.
- The report references a range of data sources including the Climate Change Commission website data in the MEFs, rather than the emissions from NZ GHGI as described in the emissions data section. Can you please include rationale for using sources other than the NZ GHGI to support clarity and understanding.

**Jessica Bensemman (she/her)**

*Principal Analyst | Kaitātari Mātāmua*

*Market Development – Climate Mitigation*

Ministry for the Environment | Manatū Mō Te Taiao

9(2)(a) | [jessica.bensemman@mfe.govt.nz](mailto:jessica.bensemman@mfe.govt.nz) | [environment.govt.nz](http://environment.govt.nz)

Please note I work part-time (25 hours per week) split over Monday to Friday. This means there may be some delay in my response to your email.



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---

**From:** Beth Hampton <[Beth.Hampton@mpi.govt.nz](mailto:Beth.Hampton@mpi.govt.nz)>

**Sent:** Monday, 18 November 2024 9:32 pm

**To:** Cheryl Moir <[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>; Jessica Bensemman <[Jessica.Bensemman@mfe.govt.nz](mailto:Jessica.Bensemman@mfe.govt.nz)>; Meredith Davis <[Meredith.Davis@mfe.govt.nz](mailto:Meredith.Davis@mfe.govt.nz)>

**Subject:** RE: CLASSIFICATION Draft email feedback for the Panel | CLASSIFICATION

9(2)(g)(i)

---

**From:** Beth Hampton

**Sent:** Monday, November 18, 2024 9:25 PM

**To:** 'Cheryl Moir' <[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>; 'Jessica Bensemman' <[Jessica.Bensemman@mfe.govt.nz](mailto:Jessica.Bensemman@mfe.govt.nz)>; 'Meredith Davis' <[Meredith.Davis@mfe.govt.nz](mailto:Meredith.Davis@mfe.govt.nz)>

**Subject:** RE: CLASSIFICATION Draft email feedback for the Panel | CLASSIFICATION

9(2)(g)(i)

---

**From:** Beth Hampton

**Sent:** Monday, November 18, 2024 9:22 PM

**To:** 'Cheryl Moir' <[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>; Jessica Bensemann <[Jessica.Bensemann@mfe.govt.nz](mailto:Jessica.Bensemann@mfe.govt.nz)>; Meredith Davis <[Meredith.Davis@mfe.govt.nz](mailto:Meredith.Davis@mfe.govt.nz)>

**Subject:** RE: CLASSIFICATION Draft email feedback for the Panel | CLASSIFICATION

9(2)(g)(i)

[Redacted]

[Redacted]

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[Redacted]

[Redacted]

[Redacted]

[Redacted]

9(2)(g)(i)

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9(2)(g)(i)

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

Ngā mihi,

Cheryl

---

**From:** Cheryl Moir <[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>  
**Sent:** Monday, November 18, 2024 5:20 PM  
**To:** Jessica Bensemenn <[Jessica.Bensemenn@mfe.govt.nz](mailto:Jessica.Bensemenn@mfe.govt.nz)>; Meredith Davis <[Meredith.Davis@mfe.govt.nz](mailto:Meredith.Davis@mfe.govt.nz)>; Beth Hampton <[Beth.Hampton@mpi.govt.nz](mailto:Beth.Hampton@mpi.govt.nz)>  
**Subject:** RE: **CLASSIFICATION** Draft email feedback for the Panel

Sounds good!

---

**From:** Jessica Bensemann <[Jessica.Bensemann@mfe.govt.nz](mailto:Jessica.Bensemann@mfe.govt.nz)>  
**Sent:** Monday, 18 November 2024 5:20 pm  
**To:** Cheryl Moir <[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>; Meredith Davis <[Meredith.Davis@mfe.govt.nz](mailto:Meredith.Davis@mfe.govt.nz)>; Beth Hampton <[beth.hampton@mpi.govt.nz](mailto:beth.hampton@mpi.govt.nz)>  
**Subject:** RE: CLASSIFICATION Draft email feedback for the Panel

9(2)(g)(i)

Cheers  
Jess

**Jessica Bensemann (she/her)**  
*Principal Analyst | Kaitātari Mātāmua  
Market Development – Climate Mitigation*

Ministry for the Environment | Manatū Mō Te Taiao  
9(2)(a) | [jessica.bensemann@mfe.govt.nz](mailto:jessica.bensemann@mfe.govt.nz) | [environment.govt.nz](http://environment.govt.nz)

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---

**From:** Cheryl Moir <[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>  
**Sent:** Monday, 18 November 2024 4:58 pm  
**To:** Jessica Bensemann <[Jessica.Bensemann@mfe.govt.nz](mailto:Jessica.Bensemann@mfe.govt.nz)>; Meredith Davis <[Meredith.Davis@mfe.govt.nz](mailto:Meredith.Davis@mfe.govt.nz)>; Beth Hampton <[beth.hampton@mpi.govt.nz](mailto:beth.hampton@mpi.govt.nz)>  
**Subject:** CLASSIFICATION Draft email feedback for the Panel

9(2)(g)(i)

[Redacted]

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[Redacted]

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[Redacted]

[Redacted]

- 9(2)(g)(i) [Redacted]

Ngā mihi,

Cheryl

**Cheryl Moir (she/her)**

*Manager, Land Use and Removals*

*Climate Change Mitigation and Resource Efficiency*

Ministry for the Environment | Manatū Mō Te Taiao

9(2)(a) [Redacted] | [cheryl.moir@mfe.govt.nz](mailto:cheryl.moir@mfe.govt.nz) | [mfe.govt.nz](http://mfe.govt.nz)



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**From:** Jessica Bensemenn <Jessica.Bensemenn@mfe.govt.nz>  
**Sent:** Friday, 22 November 2024 10:53 am  
**To:** N.M Shadbolt [EXTERNAL] (MASSEY)  
**Cc:** Cheryl Moir  
**Subject:** Economic Analysis for Zero carbon bill

Nicola,

As discussed this morning, providing links to the Regulatory Impact Assessment for the zero carbon bill, which summarises the range of economic analysis carried out on the impact of targets. We've emailed our IT team to get that link fixed.

1. <https://environment.govt.nz/assets/Publications/regulatory-impact-statement-zero-carbon-bill.pdf>
2. <https://www.treasury.govt.nz/sites/default/files/2019-05/ria-mfe-zcb-may19-a.pdf> (Same as link 1 but Treasury website)
3. <https://www.treasury.govt.nz/sites/default/files/2019-10/ria-mfe-zcb-addendum-oct19.pdf>

The broader economic analysis is provided here [Economic analysis for the proposed Climate Change Response \(Zero Carbon\) Amendment Bill | Ministry for the Environment](#) which includes a range of externally contracted analysis carried out to help inform policy decisions. *Note: the url for this link is: <https://environment.govt.nz/acts-and-regulations/acts/climate-change-response-amendment-act-2019/economic-analysis-for-the-proposed-climate-change-response-zero-carbon-amendment-bill/>*

Agencies often rely on external provisions of economic analysis for policy development. Treasury were involved in this process, including on the quality assurance panel for the RIA. Treasury may have also done their own internal analysis to support Ministers but I don't have access to provide that.

We still consider that on the basis of the economic analysis available, the sentence as it was in the draft report doesn't reflect the level of economic analysis that was carried out as part of this policy development process and would appreciate a revision.

Happy to discuss further if required,

Jessica

**Jessica Bensemenn** [\(she/her\)](#)

*Principal Analyst | Kaitātari Mātāmua*

*Market Development – Climate Mitigation*

Ministry for the Environment | Manatū Mō Te Taiao

**9(2)(a)** | [jessica.bensemenn@mfe.govt.nz](mailto:jessica.bensemenn@mfe.govt.nz) | [environment.govt.nz](https://environment.govt.nz)

Please note I work part-time (25 hours per week) split over Monday to Friday. This means there may be some delay in my response to your email.

**From:** Jessica Bensemenn <Jessica.Bensemenn@mfe.govt.nz>  
**Sent:** Monday, 25 November 2024 6:30 pm  
**To:** N.M Shadbolt [EXTERNAL] (MASSEY)  
**Cc:** Cheryl Moir  
**Subject:** Checking in on data sets and modelling results

**Importance:** High

Kia ora Nicola,

Just a couple of things ahead of our meeting tomorrow in case you are having late night / early contact with Dave or Bill on the modelling.

- It seems that the data set used for some of the graphs lines up with 2023 GHG Inventory figures – just confirming that you’ve used 2024 figures in the modelling?
- When comparing the results from draft report, with similar scenarios to other reports that have modelled the findings (and a replication carried out in-house), we’re seeing quite different results – even with same scenarios and baseline years etc. This could be due to some of the issues that have been identified and rectified in the modelling, or it could be due to the model versions. You have noted that Dave was working through some unexpected figures, so this could all be resolved now.

It would be good if you’re able to provide us a bit of an update on this tomorrow morning if possible. We’ll need to be able to explain the reason behind any differences in results to other reports that have been done, so it’s useful for us to understand the modelling. 9(2)(g)(i)

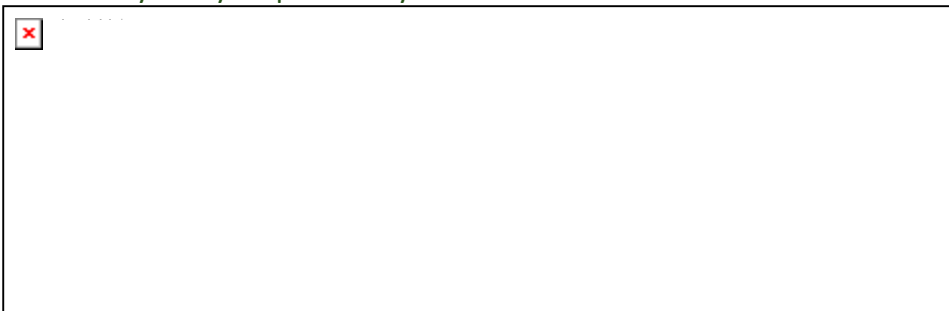
Look forward to catching up tomorrow and hope it’s all coming together well.

Regards,

**Jessica Bensemenn** (she/her)  
*Principal Analyst | Kaitātari Mātāmua*  
*Market Development – Climate Mitigation*

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**From:** Jessica Bensemenn  
**Sent:** Tuesday, 26 November 2024 9:50 am  
**To:** Cheryl Moir  
**Subject:** FW: Sign out progress  
**Attachments:** Communications Plan – Release of methane science and targets review - November 2024 (FINAL).docx

Attachment withheld under section 9(2)(g)(i) of the Act.  
Note: the final press release is available at: <https://www.beehive.govt.nz/release/government-releases-independent-scientific-review-biogenic-methanescience-and-targets>

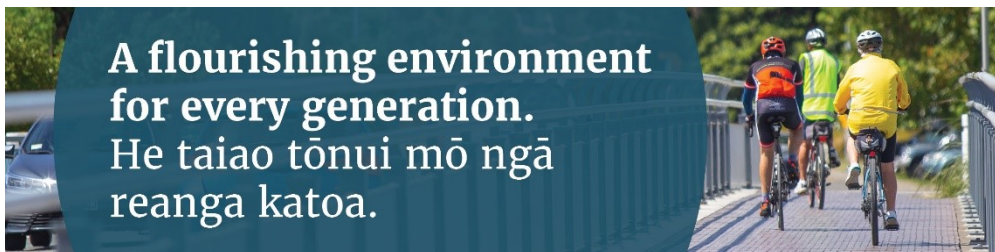
**Jessica Bensemenn** ([she/her](#))  
*Principal Analyst | Kaitātari Mātāmua  
Market Development – Climate Mitigation*

Ministry for the Environment | Manatū Mō Te Taiao  
9(2)(a) | [jessica.bensemenn@mfe.govt.nz](mailto:jessica.bensemenn@mfe.govt.nz) | [environment.govt.nz](http://environment.govt.nz)

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---

**From:** Brad Markham <Brad.Markham@mpi.govt.nz>  
**Sent:** Monday, 25 November 2024 3:21 pm  
**To:** Jessica Bensemenn <Jessica.Bensemenn@mfe.govt.nz>  
**Cc:** Gemma Freeman <Gemma.Freeman@mfe.govt.nz>; Shania Brooks [EXTERNAL] (MPI) <Shania.Brooks@mpi.govt.nz>; Tracey Bull <Tracey.Bull@mfe.govt.nz>  
**Subject:** RE: Sign out progress

Tēnā koe,

Attached is what we sent over.

Ngā mihi,

Brad

CLASSIFICATION

**Brad Markham** | [he/him](#) | Principal Adviser – Kaitohutohu Mātāmua | Communications and Engagement | Public Affairs | Ministry for Primary Industries - Manatū Ahu Matua | Charles Fergusson Building, 38-42 Bowen Street | PO Box 2526 | Wellington 6140 | New Zealand | Telephone: 9(2)(a) | Mob: 9(2)(a) | Email: [brad.markham@mpi.govt.nz](mailto:brad.markham@mpi.govt.nz) | Web: [www.mpi.govt.nz](http://www.mpi.govt.nz)

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**From:** Jessica Bensemenn <[Jessica.Bensemenn@mfe.govt.nz](mailto:Jessica.Bensemenn@mfe.govt.nz)>

**Sent:** Monday, November 25, 2024 3:19 PM

**To:** Brad Markham <[Brad.Markham@mpi.govt.nz](mailto:Brad.Markham@mpi.govt.nz)>

**Cc:** Gemma Freeman <[Gemma.Freeman@mfe.govt.nz](mailto:Gemma.Freeman@mfe.govt.nz)>; Shania Brooks <[Shania.Brooks@mpi.govt.nz](mailto:Shania.Brooks@mpi.govt.nz)>; Tracey Bull <[Tracey.Bull@mfe.govt.nz](mailto:Tracey.Bull@mfe.govt.nz)>

**Subject:** RE: Sign out progress

Thanks, just copying in Tracey from our side, given Gemma is away today – can you please share the final that you send across.

Many thanks  
Jessica

**Jessica Bensemenn** ([she/her](#))

*Principal Analyst | Kaitātari Mātāmua*

*Market Development – Climate Mitigation*

Ministry for the Environment | Manatū Mō Te Taiao

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---

**From:** Brad Markham <[Brad.Markham@mpi.govt.nz](mailto:Brad.Markham@mpi.govt.nz)>  
**Sent:** Monday, 25 November 2024 3:04 pm  
**To:** Jessica Bensemam <[Jessica.Bensemam@mfe.govt.nz](mailto:Jessica.Bensemam@mfe.govt.nz)>  
**Cc:** Gemma Freeman <[Gemma.Freeman@mfe.govt.nz](mailto:Gemma.Freeman@mfe.govt.nz)>; Shania Brooks [EXTERNAL] (MPI) <[Shania.Brooks@mpi.govt.nz](mailto:Shania.Brooks@mpi.govt.nz)>  
**Subject:** RE: Sign out progress

Hi Jess,

We have heard back. Release will be as early as possible on the 5<sup>th</sup>.

I will send this over to Minister McClay's office now. I will leave it to you to send it to Minister Watts' office.

I have tweaked the date on the master media release to reflect that.

Ngā mihi,  
Brad

CLASSIFICATION

**Brad Markham** | [he/him](#) | Principal Adviser – Kaitohutohu Mātāmua | Communications and Engagement | Public Affairs | Ministry for Primary Industries - Manatū Ahu Matua | Charles Fergusson Building, 38-42 Bowen Street | PO Box 2526 | Wellington 6140 | New Zealand | Telephone: 9(2)(a) | Mob: 9(2)(a) | Email: [brad.markham@mpi.govt.nz](mailto:brad.markham@mpi.govt.nz) | Web: [www.mpi.govt.nz](http://www.mpi.govt.nz)

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**From:** Jessica Bensemam <[Jessica.Bensemam@mfe.govt.nz](mailto:Jessica.Bensemam@mfe.govt.nz)>  
**Sent:** Monday, November 25, 2024 11:05 AM  
**To:** Brad Markham <[Brad.Markham@mpi.govt.nz](mailto:Brad.Markham@mpi.govt.nz)>; Shania Brooks <[Shania.Brooks@mpi.govt.nz](mailto:Shania.Brooks@mpi.govt.nz)>  
**Cc:** Gemma Freeman <[Gemma.Freeman@mfe.govt.nz](mailto:Gemma.Freeman@mfe.govt.nz)>  
**Subject:** Re: Sign out progress

Hi Brad

I understand this is being discussed at cabinet today. Could we wait until we get feedback from that before sending? Just in case anything comes out of that that could require an adjustment.

Cheers  
Jess

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---

**From:** Brad Markham <[Brad.Markham@mpi.govt.nz](mailto:Brad.Markham@mpi.govt.nz)>  
**Sent:** Monday, November 25, 2024 10:46:34 AM

**To:** Jessica Bensemann <[Jessica.Bensemann@mfe.govt.nz](mailto:Jessica.Bensemann@mfe.govt.nz)>; Shania Brooks [EXTERNAL] (MPI) <[Shania.Brooks@mpi.govt.nz](mailto:Shania.Brooks@mpi.govt.nz)>  
**Cc:** Gemma Freeman <[Gemma.Freeman@mfe.govt.nz](mailto:Gemma.Freeman@mfe.govt.nz)>  
**Subject:** RE: Sign out progress

Hey Jessica

We have received final sign out. Yay!

Are you happy for the version in the joint shared file to be sent to our Minister?

Let me know and I'll download a version and send them a hard copy.

You can arrange to send to your MO.

How does that sound?

Ngā mihi,  
Brad

CLASSIFICATION

**Brad Markham** | [he/him](https://www.mpi.govt.nz/people/brad-markham) | Principal Adviser – Kaitohutohu Mātāmua | Communications and Engagement | Public Affairs | Ministry for Primary Industries - Manatū Ahu Matua | Charles Fergusson Building, 38-42 Bowen Street | PO Box 2526 | Wellington 6140 | New Zealand | Telephone: 9(2)(a) | Mob: 9(2)(a) | Email: [brad.markham@mpi.govt.nz](mailto:brad.markham@mpi.govt.nz) | Web: [www.mpi.govt.nz](http://www.mpi.govt.nz)

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---

**From:** Jessica Bensemann <[Jessica.Bensemann@mfe.govt.nz](mailto:Jessica.Bensemann@mfe.govt.nz)>  
**Sent:** Monday, November 25, 2024 9:04 AM  
**To:** Brad Markham <[Brad.Markham@mpi.govt.nz](mailto:Brad.Markham@mpi.govt.nz)>; Shania Brooks <[Shania.Brooks@mpi.govt.nz](mailto:Shania.Brooks@mpi.govt.nz)>  
**Cc:** Gemma Freeman <[Gemma.Freeman@mfe.govt.nz](mailto:Gemma.Freeman@mfe.govt.nz)>  
**Subject:** RE: Sign out progress

Kia ora Brad,

You might still be going through emails but you'll have one from Gemma as attached outlining process that's been complete from MfE side, including sign off to GM. Gemma has added in changes to the shared version I think.

Had the version that went to Hemi been seen by Beth? I thought Beth's comments were in there last week?

I haven't seen the MPI version – can you send it through – where did sign off get to on MPI side?

Regards,  
Jessica

**Jessica Bensemam (she/her)**

Principal Analyst | Kaitātari Mātāmua

Market Development – Climate Mitigation

Ministry for the Environment | Manatū Mō Te Taiao

9(2)(a) | [jessica.bensemam@mfe.govt.nz](mailto:jessica.bensemam@mfe.govt.nz) | [environment.govt.nz](http://environment.govt.nz)

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**From:** Brad Markham <[Brad.Markham@mpi.govt.nz](mailto:Brad.Markham@mpi.govt.nz)>

**Sent:** Monday, 25 November 2024 8:58 am

**To:** Jessica Bensemam <[Jessica.Bensemam@mfe.govt.nz](mailto:Jessica.Bensemam@mfe.govt.nz)>; Shania Brooks [EXTERNAL] (MPI) <[Shania.Brooks@mpi.govt.nz](mailto:Shania.Brooks@mpi.govt.nz)>

**Subject:** Sign out progress

Mōrena Shania and Jessica,  
I'm back from leave.

Can I please get an update on where sign out is at and who's left.

The two documents (MPI version and original in MfE folder) look quite different.

I think to get a final version I/we might need to shift some lines around.

Ngā mihi,

Brad

CLASSIFICATION

**Brad Markham** | [he/him](mailto:he/him) | Principal Adviser – Kaitohutohu Mātāmua | Communications and Engagement | Public Affairs | Ministry for Primary Industries - Manatū Ahu Matua | Charles Fergusson Building, 38-42 Bowen Street | PO Box 2526 | Wellington 6140 | New Zealand | Telephone: 9(2)(a) | Mob: 9(2)(a) | Email: [brad.markham@mpi.govt.nz](mailto:brad.markham@mpi.govt.nz) | Web: [www.mpi.govt.nz](http://www.mpi.govt.nz)

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**From:** Jessica Bensemenn  
**Sent:** Wednesday, 27 November 2024 9:56 pm  
**To:** 'Beth Hampton'; Tom Womack; Cheryl Moir; Juliet Nelson; Mele Tabukovu [EXTERNAL] (MPI); Shania Brooks [EXTERNAL] (MPI)  
**Subject:** RE: CLASSIFICATION Re: Final report in folder now  
**Attachments:** RE: Methane Review Report  
*Note: the attachment is the email conversation in the document titled "Methane Review Report (28-11-24) up until Wednesday, 27 November 2024 9:40 pm*

When I spoke to Nicola earlier, she seemed confident that the actuals were included in all calculations up to 2022, so I think it is a wording /sentence structure that needs to be fixed up (fingers crossed). She was also confident that 2024 GHGI data has been used (and that this had been triple checked). So hopefully it is just a matter of getting the calculations set relative to 2017 not 2022.

Email sent to Nicola attached. Thanks again to Tom for doing great work so quickly on this. Makes it easy to convey.

Let's see what we get back tomorrow morning.

Jess

**Jessica Bensemenn (she/her)**

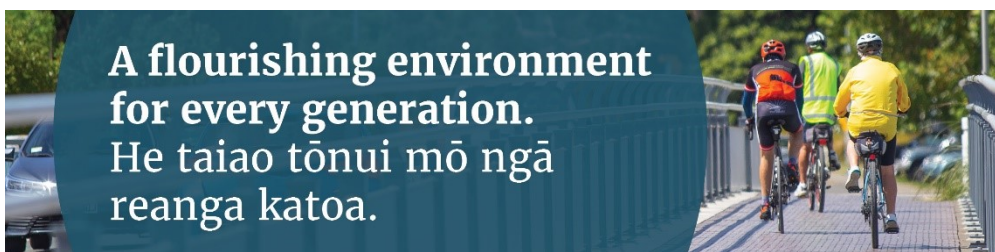
*Principal Analyst | Kaitātari Mātāmua  
Market Development – Climate Mitigation*

Ministry for the Environment | Manatū Mō Te Taiao  
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---

**From:** Beth Hampton <Beth.Hampton@mpi.govt.nz>  
**Sent:** Wednesday, 27 November 2024 6:39 pm  
**To:** Tom Womack <Tom.Womack@mfe.govt.nz>; Cheryl Moir <Cheryl.Moir@mfe.govt.nz>; Jessica Bensemenn <Jessica.Bensemenn@mfe.govt.nz>; Juliet Nelson <Juliet.Nelson@mfe.govt.nz>; Mele Tabukovu [EXTERNAL] (MPI)

<Mele.Tabukovu@mpi.govt.nz>; Shania Brooks [EXTERNAL] (MPI) <Shania.Brooks@mpi.govt.nz>  
**Subject:** RE: **CLASSIFICATION** Re: Final report in folder now

Just so I'm clear – how material is the potential issue highlighted below, given the trajectory they have modelled must still satisfy NAW? Or is the issue more in the presentation of the annual reduction?

---

**From:** Tom Womack <Tom.Womack@mfe.govt.nz>  
**Sent:** Wednesday, November 27, 2024 6:26 PM  
**To:** Beth Hampton <Beth.Hampton@mpi.govt.nz>; Cheryl Moir <Cheryl.Moir@mfe.govt.nz>; Jessica Bensemann <Jessica.Bensemann@mfe.govt.nz>; Juliet Nelson <Juliet.Nelson@mfe.govt.nz>; Mele Tabukovu (Mele) <Mele.Tabukovu@mpi.govt.nz>; Shania Brooks <Shania.Brooks@mpi.govt.nz>  
**Subject:** RE: **CLASSIFICATION** Re: Final report in folder now

Hi Beth,

That is my understanding too – for clarity some quick notes below.

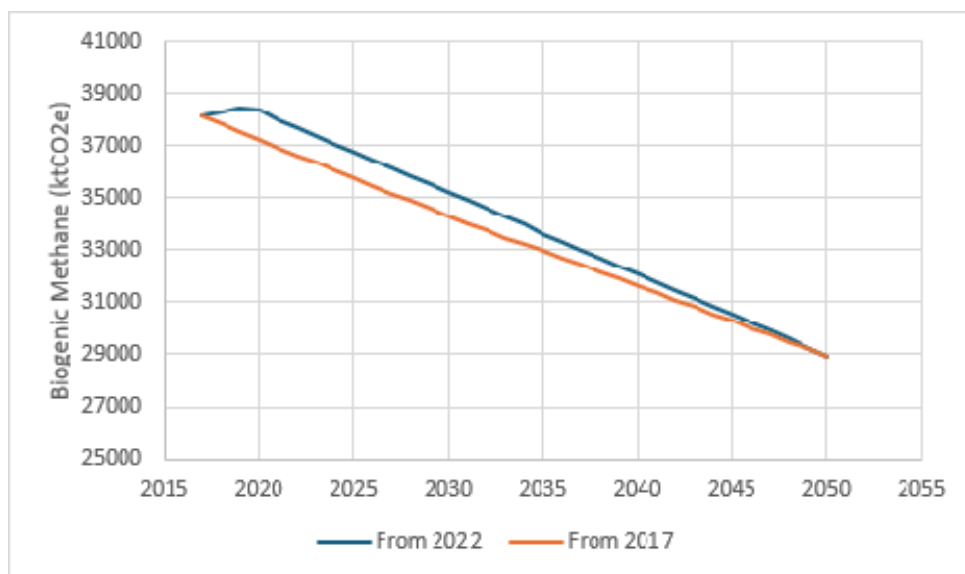
All the MEFs are based on satisfying no additional warming relative to warming from biogenic methane in 2017 (i.e., warming up to and including 2017 from New Zealand's biogenic methane emissions).

The MEFs for 2-20% are all modelled assuming a linear reduction from 2022 to 2050 and also expressed as % reduction relative to 2022 (i.e., they assume that biogenic methane reduces linearly from the last available data point – 2022).

- We need the Panel (or we can do it with the data) to convert these, so they are relative to 2017 emissions.

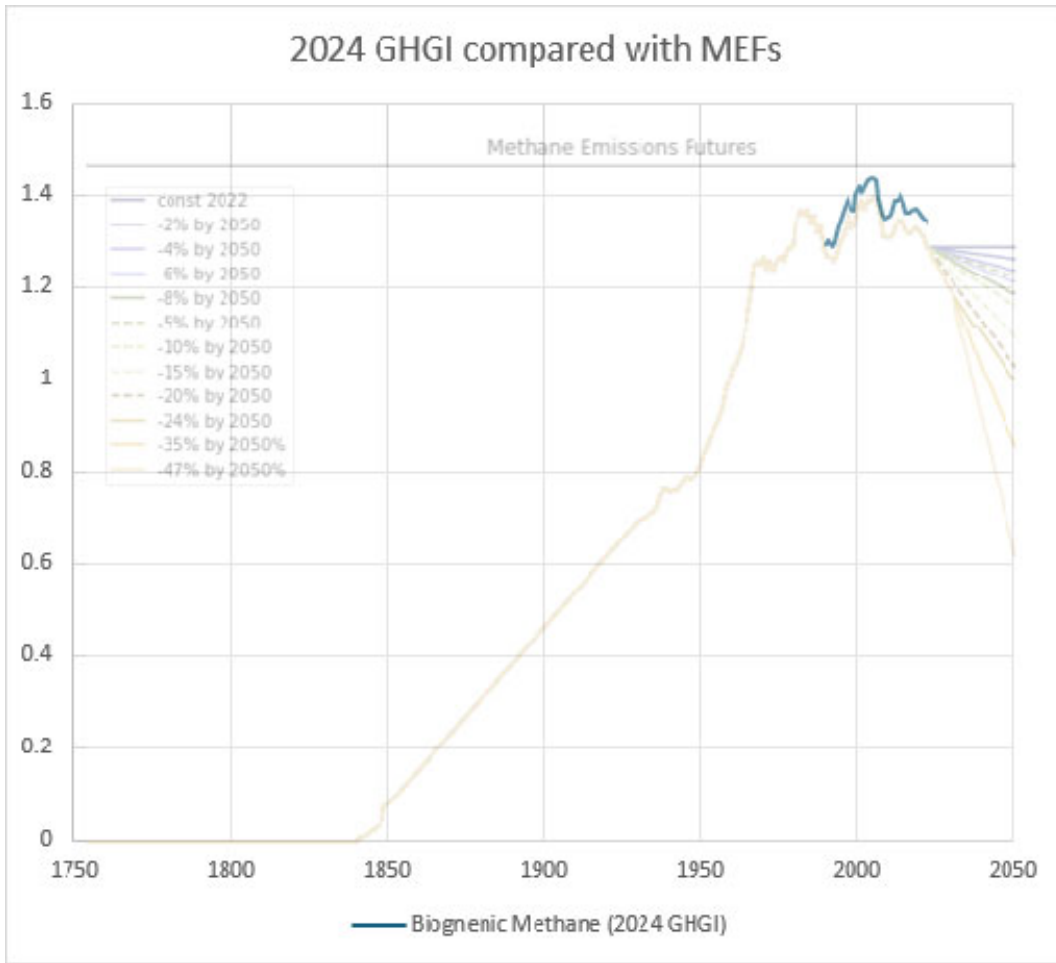
As far as can tell the MEFs for 24%, 35% and 47% are all modelled assuming a linear reduction from 2017 to 2030 (to meet the 10% target) and then a linear reduction from 2030 to 2050 (to meet either 24%, 35% or 47% and expressed as % reduction relative to 2017 (i.e., they assume that methane start decreasing from 2017 levels, omitting the actual data we have from 2017-2022).

- If this interpretation is correct, then from my perspective it is a little bit problematic because it assumes quite a different trajectory than a linear reduction from current levels (represented by the latest GHGI data from 2022 – See Figure 1 below).



**Figure 1.** The from 2017 line represents a linear reduction of biogenic methane emissions starting in 2017 to 2030 to the 10% target (relative to 2017) and then from 2030 to 2050 to an illustrative 24% target (relative to 2017). The from 2022 line represents a linear reduction in biogenic methane emissions from 2022 to 2050 to the an illustrative 24% target (relative to 2017).

It also looks like the underlying data for the MEFs does not use the data from the 2024 GHGI (looks more like the 2023 GHGI) based on a crude overlay of the 2024 GHGI data with the MEF figure (Figure 14 from the report) – see Figure 2 below. Would need to see the underlying dataset to confirm this.



**Figure 2.** Comparison of the biogenic methane emissions from the 2024 GHGI (blue line) in MtCH4 and the biogenic methane trajectories used by the Panel.

Cheers,  
Tom

---

**From:** Beth Hampton <[Beth.Hampton@mpi.govt.nz](mailto:Beth.Hampton@mpi.govt.nz)>  
**Sent:** Wednesday, 27 November 2024 5:43 pm  
**To:** Cheryl Moir <[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>; Jessica Bensemann <[Jessica.Bensemann@mfe.govt.nz](mailto:Jessica.Bensemann@mfe.govt.nz)>; Juliet Nelson <[Juliet.Nelson@mfe.govt.nz](mailto:Juliet.Nelson@mfe.govt.nz)>; Tom Womack <[Tom.Womack@mfe.govt.nz](mailto:Tom.Womack@mfe.govt.nz)>; Mele Tabukovu [EXTERNAL] (MPI) <[Mele.Tabukovu@mpi.govt.nz](mailto:Mele.Tabukovu@mpi.govt.nz)>; Shania Brooks [EXTERNAL] (MPI) <[Shania.Brooks@mpi.govt.nz](mailto:Shania.Brooks@mpi.govt.nz)>  
**Subject:** RE: CLASSIFICATION Re: Final report in folder now

From my read, they present results for 24, 25, and 47 relative to 2017 – but the other results are relative to 2022 levels.

I think what we need is for any conclusions to be relative to 2017 levels. As I think their 11% is relative to 2022. Please can we urgently clarify what this means from a 2017 baseline.

---

**From:** Cheryl Moir <[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>

**Sent:** Wednesday, November 27, 2024 5:17 PM

**To:** Jessica Bensemann <[Jessica.Bensemann@mfe.govt.nz](mailto:Jessica.Bensemann@mfe.govt.nz)>; Beth Hampton <[Beth.Hampton@mpi.govt.nz](mailto:Beth.Hampton@mpi.govt.nz)>; Juliet Nelson <[Juliet.Nelson@mfe.govt.nz](mailto:Juliet.Nelson@mfe.govt.nz)>; Tom Womack <[Tom.Womack@mfe.govt.nz](mailto:Tom.Womack@mfe.govt.nz)>; Mele Tabukovu (Mele) <[Mele.Tabukovu@mpi.govt.nz](mailto:Mele.Tabukovu@mpi.govt.nz)>; Shania Brooks <[Shania.Brooks@mpi.govt.nz](mailto:Shania.Brooks@mpi.govt.nz)>

**Subject:** Re: CLASSIFICATION Re: Final report in folder now

Hey I just spoke to Beth and I understand there's a conclusion that is referencing 2022 rather than 2017 - can you take a look at that please Jess?

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**From:** Jessica Bensemann <[Jessica.Bensemann@mfe.govt.nz](mailto:Jessica.Bensemann@mfe.govt.nz)>

**Sent:** Wednesday, November 27, 2024 4:27:55 PM

**To:** Beth Hampton <[beth.hampton@mpi.govt.nz](mailto:beth.hampton@mpi.govt.nz)>; Cheryl Moir <[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>; Juliet Nelson <[Juliet.Nelson@mfe.govt.nz](mailto:Juliet.Nelson@mfe.govt.nz)>; Tom Womack <[Tom.Womack@mfe.govt.nz](mailto:Tom.Womack@mfe.govt.nz)>; Mele Tabukovu [EXTERNAL] (MPI) <[Mele.Tabukovu@mpi.govt.nz](mailto:Mele.Tabukovu@mpi.govt.nz)>; Shania Brooks [EXTERNAL] (MPI) <[Shania.Brooks@mpi.govt.nz](mailto:Shania.Brooks@mpi.govt.nz)>

**Subject:** [COMMERCIAL]Re: Final report in folder now

Juliet is doing a quick scan to check final against our feedback if anything major we want to raise. From my quick look I see there's still 2017 and 2022 dates in there but haven't seen if explained why used both.

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---

**From:** Jessica Bensemann

**Sent:** Wednesday, November 27, 2024 4:21:18 PM

**To:** Beth Hampton <[Beth.Hampton@mpi.govt.nz](mailto:Beth.Hampton@mpi.govt.nz)>; Cheryl Moir <[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>; Juliet Nelson <[Juliet.Nelson@mfe.govt.nz](mailto:Juliet.Nelson@mfe.govt.nz)>; Tom Womack <[Tom.Womack@mfe.govt.nz](mailto:Tom.Womack@mfe.govt.nz)>; Mele Tabukovu [EXTERNAL] (MPI) <[Mele.Tabukovu@mpi.govt.nz](mailto:Mele.Tabukovu@mpi.govt.nz)>; Shania Brooks [EXTERNAL] (MPI) <[Shania.Brooks@mpi.govt.nz](mailto:Shania.Brooks@mpi.govt.nz)>

**Subject:** Final report in folder now

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**Jessica Bensemann** [\(she/her\)](#)

*Principal Analyst | Kaitātari Mātāmua*

*Market Development – Climate Mitigation*

Ministry for the Environment | Manatū Mō Te Taiao

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Please note I work part-time (25 hours per week) split over Monday to Friday. This means there may be some delay in my response to your email.

**From:** Nicola Shadbolt <N.M.Shadbolt@massey.ac.nz>  
**Sent:** Thursday, 28 November 2024 9:45 am  
**To:** Tom Womack; Jessica Bensemann  
**Cc:** David Frame  
**Subject:** RE: Methane Review Report

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Thanks Tom, shall do.  
Nicola

---

**From:** Tom Womack <Tom.Womack@mfe.govt.nz>  
**Sent:** Thursday, 28 November 2024 9:43 am  
**To:** Nicola Shadbolt <N.M.Shadbolt@massey.ac.nz>; Jessica Bensemann <Jessica.Bensemann@mfe.govt.nz>  
**Cc:** David Frame <david.frame@canterbury.ac.nz>  
**Subject:** RE: Methane Review Report

Hi Nicola,

Sorry I missed your call, I was just in a meeting – in and out of meetings this morning but happy to call back if any times work for you (just tried now).

I think for the last point on Table 3 - it would be useful to also have the % reduction from 2022 emissions converted to be a % relative to 2017 emissions – so a comparison can be made across all the MEFs and also comparable to the emission reductions for the current biogenic methane target.

Cheers,  
Tom

---

**From:** Nicola Shadbolt <[N.M.Shadbolt@massey.ac.nz](mailto:N.M.Shadbolt@massey.ac.nz)>  
**Sent:** Thursday, 28 November 2024 9:21 am  
**To:** Jessica Bensemann <[Jessica.Bensemann@mfe.govt.nz](mailto:Jessica.Bensemann@mfe.govt.nz)>  
**Cc:** Tom Womack <[Tom.Womack@mfe.govt.nz](mailto:Tom.Womack@mfe.govt.nz)>; David Frame <[david.frame@canterbury.ac.nz](mailto:david.frame@canterbury.ac.nz)>  
**Subject:** RE: Methane Review Report

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Hello Jess

Have tried to ring Tom but got no reply. Dave is rerunning the model using the MfE inventory data series right now so he has the correct 2022 starting point. I am editing the document so Table 3 is the point at which the various MEFs are brought into a common point of comparison in line with legislation. Will keep you informed as it evolves.

The TOR require the test of no additional warming versus 2017 and that is exactly what has been done. The only point of confusion is the comparison between the MEFs, it is sensible to model forward from the latest data point so we stand by that, but we get your point about how better to compare the MEFs in Table 3 so are making those changes now.

Nicola

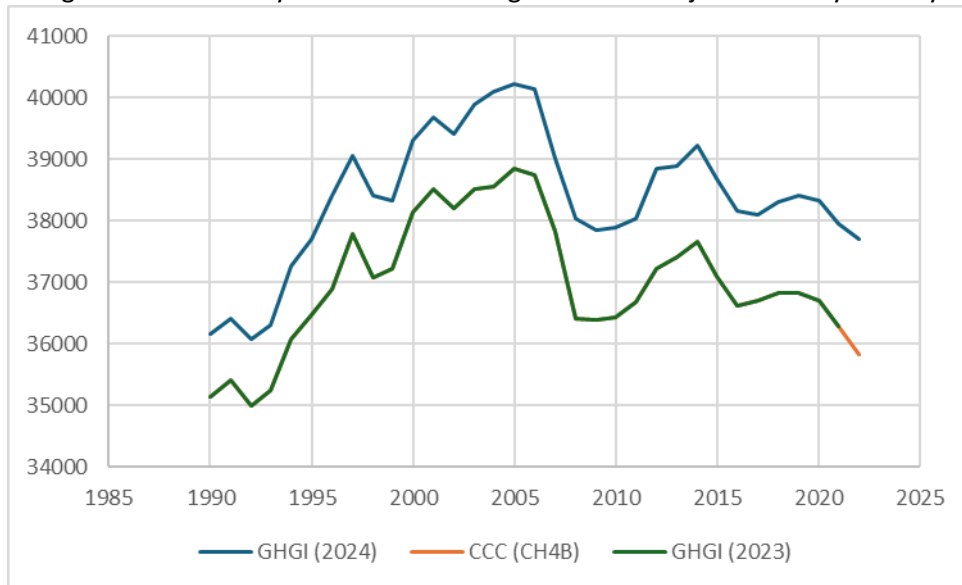
---

**From:** Jessica Bensemamm <[Jessica.Bensemamm@mfe.govt.nz](mailto:Jessica.Bensemamm@mfe.govt.nz)>  
**Sent:** Thursday, 28 November 2024 8:41 am  
**To:** Nicola Shadbolt <[N.M.Shadbolt@massey.ac.nz](mailto:N.M.Shadbolt@massey.ac.nz)>  
**Cc:** David Frame <[david.frame@canterbury.ac.nz](mailto:david.frame@canterbury.ac.nz)>; Tom Womack <[Tom.Womack@mfe.govt.nz](mailto:Tom.Womack@mfe.govt.nz)>  
**Subject:** RE: Methane Review Report

Thanks Nicola,

I've had further advice from my colleague Tom about the data and he's provided another chart to review against your data regarding the difference between 2023 and 2024 GHGI data sets.

It might be easiest for yourself or Dave to give Tom a call just to clarify directly. 0221574070



**Jessica Bensemamm (she/her)**  
*Principal Analyst | Kaitātari Mātāmua*  
*Market Development – Climate Mitigation*


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reanga katoa.

---

**From:** Nicola Shadbolt <[N.M.Shadbolt@massey.ac.nz](mailto:N.M.Shadbolt@massey.ac.nz)>  
**Sent:** Thursday, 28 November 2024 8:33 am  
**To:** Jessica Bensemann <[Jessica.Bensemann@mfe.govt.nz](mailto:Jessica.Bensemann@mfe.govt.nz)>  
**Cc:** David Frame <[david.frame@canterbury.ac.nz](mailto:david.frame@canterbury.ac.nz)>  
**Subject:** RE: Methane Review Report

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Hello Jess, have just checked and 5% is in all of the graphs but just not in Table 2 so have added it back into Table 2 and left the text as it was.  
Nicola

---

**From:** Nicola Shadbolt  
**Sent:** Thursday, 28 November 2024 8:32 am  
**To:** Jessica Bensemann <[Jessica.Bensemann@mfe.govt.nz](mailto:Jessica.Bensemann@mfe.govt.nz)>  
**Cc:** David Frame <[david.frame@canterbury.ac.nz](mailto:david.frame@canterbury.ac.nz)>  
**Subject:** RE: Methane Review Report

Thanks Jess, will remove that from the text.  
Nicola

---

**From:** Jessica Bensemann <[Jessica.Bensemann@mfe.govt.nz](mailto:Jessica.Bensemann@mfe.govt.nz)>  
**Sent:** Thursday, 28 November 2024 7:58 am  
**To:** Nicola Shadbolt <[N.M.Shadbolt@massey.ac.nz](mailto:N.M.Shadbolt@massey.ac.nz)>  
**Cc:** David Frame <[david.frame@canterbury.ac.nz](mailto:david.frame@canterbury.ac.nz)>  
**Subject:** RE: Methane Review Report

Just another minor point

- In the results, the text mentions MEFs of 5, 10, 15%... the graphs includes 2, 4, 6, 8, as does the results table, but this doesn't include a 5%. Maybe just another check of those to determine if you want consistency across all.

**Jessica Bensemann** ([she/her](#))  
*Principal Analyst | Kaitātari Mātāmua  
Market Development – Climate Mitigation*

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reanga katoa.

---

**From:** Nicola Shadbolt <[N.M.Shadbolt@massey.ac.nz](mailto:N.M.Shadbolt@massey.ac.nz)>

**Sent:** Thursday, 28 November 2024 6:40 am

**To:** Jessica Bensemenn <[Jessica.Bensemenn@mfe.govt.nz](mailto:Jessica.Bensemenn@mfe.govt.nz)>

**Cc:** Cheryl Moir <[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>; David Frame <[david.frame@canterbury.ac.nz](mailto:david.frame@canterbury.ac.nz)>; Beth Hampton <[beth.hampton@mpi.govt.nz](mailto:beth.hampton@mpi.govt.nz)>

**Subject:** RE: Methane Review Report

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Hello Jess

Leave it with me and I will work with the team to get something to you.

Regards

Nicola

---

**From:** Jessica Bensemenn <[Jessica.Bensemenn@mfe.govt.nz](mailto:Jessica.Bensemenn@mfe.govt.nz)>

**Sent:** Thursday, 28 November 2024 6:34 am

**To:** Nicola Shadbolt <[N.M.Shadbolt@massey.ac.nz](mailto:N.M.Shadbolt@massey.ac.nz)>

**Cc:** Cheryl Moir <[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>; David Frame <[david.frame@canterbury.ac.nz](mailto:david.frame@canterbury.ac.nz)>; Beth Hampton <[beth.hampton@mpi.govt.nz](mailto:beth.hampton@mpi.govt.nz)>

**Subject:** RE: Methane Review Report

Thanks Nicola,

We would prefer these changed so that there is consistency across how all the results are presented – it just makes the presentation and communication of the results more standardised, and in line with the TOR. We understand that this might not have a material impact. I've highlighted below a particular sentence where this needs to change, but will need a check throughout the doc.

Can we also get a change to that para you raised below, to make it clearer that the actual data is used for the Leg MEFs as well – the way it's written at the moment it's not clear as there's the ref to the 2017 linear reductions, which is not 100% accurate.

Can you please check the link to CCC data in the appendix, and perhaps also note in the appendix on modelling methodology that the actual GHGI figures are used up to 2022 for all MEFs. The understanding from my colleagues is that that CCC data set is based on 2023 GHGI, but it may be a misunderstanding.

If you could provide a track changes version of the word report, I can send it through to the designers to incorporate. Provided Dave is ok with this approach.

Thanks for getting back to me so quickly on this.

Regards,  
Jessica

**Jessica Bensemenn (she/her)**

*Principal Analyst | Kaitātari Mātāmua  
Market Development – Climate Mitigation*

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**From:** Nicola Shadbolt <[N.M.Shadbolt@massey.ac.nz](mailto:N.M.Shadbolt@massey.ac.nz)>  
**Sent:** Wednesday, 27 November 2024 10:29 pm  
**To:** Jessica Bensemenn <[Jessica.Bensemenn@mfe.govt.nz](mailto:Jessica.Bensemenn@mfe.govt.nz)>

Cc: Cheryl Moir <[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>; David Frame <[david.frame@canterbury.ac.nz](mailto:david.frame@canterbury.ac.nz)>

Subject: RE: Methane Review Report

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Hello

I can confirm that the data series includes the same years as the inventory.

To convert the percentages to a 2017 base makes very little difference to the results e.g. 11% is 10.88% so after rounding would still be 11%. If you like I can calculate them and see what you think. 2022 is less than 2017 so there has already been some reduction before the next deduction is modelled, your graph doesn't seem to show that very clearly.

Have copied Dave into this in case he has any violent objection to doing this. Table 2 would not change but in Table 3 we can set everything to a 2017 base. There would still be the difference between the ones that followed the legislated path and those that went to 2022 and then were further reduced but you are happier with that?

Regards

Nicola

---

**From:** Jessica Bensemenn <[Jessica.Bensemenn@mfe.govt.nz](mailto:Jessica.Bensemenn@mfe.govt.nz)>

**Sent:** Wednesday, 27 November 2024 9:40 pm

**To:** Nicola Shadbolt <[N.M.Shadbolt@massey.ac.nz](mailto:N.M.Shadbolt@massey.ac.nz)>

**Cc:** Cheryl Moir <[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>

**Subject:** RE: Methane Review Report

Thanks Nicola,

Thanks for highlighting the section, I've just been having a closer look through and checking email from my team as well.

We understand that all the MEFs are based on satisfying no additional warming relative to warming from biogenic methane in 2017 (i.e., warming up to and including 2017 from New Zealand's biogenic methane emissions).

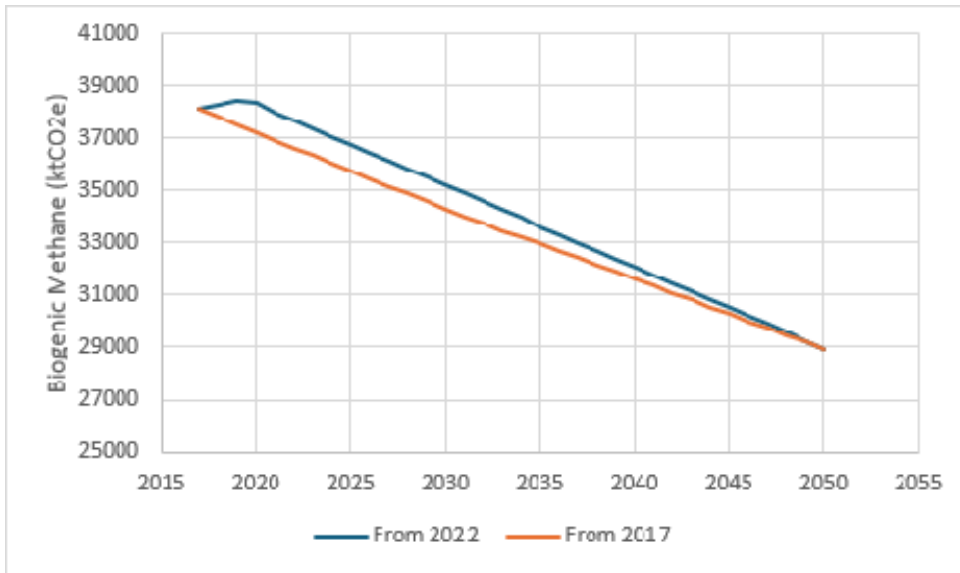
The MEFs for 2-20% are all modelled assuming a linear reduction from 2022 to 2050 and also expressed **as % reduction relative to 2022** (i.e., they assume that biogenic methane reduces linearly from the last available data point – 2022).

E.g. Just under Table 3 "Unless global emissions of GHGs reduce rapidly in the next couple of decades, **cuts on 2022 biogenic methane emission levels of around 11% by 2050**, or around 0.3% per annum (Appendix 4), are sufficient to keep warming from NZ's biogenic methane to levels at or below 2017 levels."

- If this interpretation is correct, to provide consistency across the results and to meet the TOR, we need the Panel to convert these, so they are relative to 2017 emissions. This may or may not result in any significant change to the figures, but is important for interpretation of results. Please feel free to justify why you have chosen to calculate percentage reductions relative to 2022 for these sets.

As far as can we can tell the MEFs for 24%, 35% and 47% are all modelled assuming a linear reduction from 2017 to 2030 (to meet the 10% target) and then a linear reduction from 2030 to 2050 (to meet either 24%, 35% or 47% and expressed as % reduction relative to 2017 (i.e., they assume that methane start decreasing from 2017 levels, **omitting the actual data we have from 2017-2022**). We understand that this was done to align with the legislated targets. However, this then means that there is a difference between how the two sets of results are calculated.

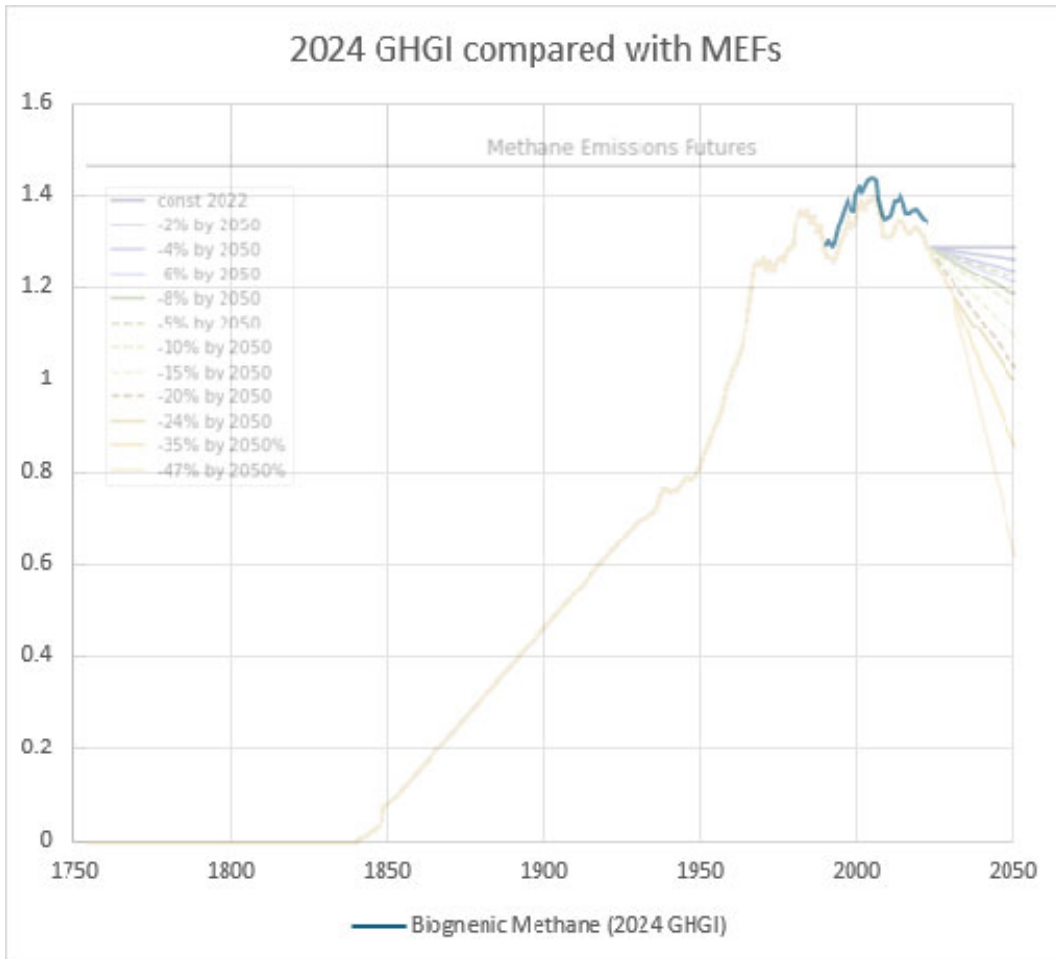
- If this interpretation is correct, then this may be problematic because it assumes quite a different trajectory than a linear reduction from current levels (represented by the latest GHGI data from 2022 – See Figure 1 below).



**Figure 1.** The from 2017 line represents a linear reduction of biogenic methane emissions starting in 2017 to 2030 to the 10% target (relative to 2017) and then from 2030 to 2050 to an illustrative 24% target (relative to 2017). The from 2022 line represents a linear reduction in biogenic methane emissions from 2022 to 2050 to the an illustrative 24% target (relative to 2017).

If it is the case that the actual data to 2022 isn't included in the second sets of results, there may be some issues with presenting the results of the two sets alongside each other without clarifying the impact that this could have on the results for when the condition is satisfied.

It also looks like the underlying data for the MEFs does not use the data from the 2024 GHGI (looks more like the 2023 GHGI) based on a crude overlay of the 2024 GHGI data with the MEF figure (Figure 14 from the report) – see Figure 2 below. Would need to see the underlying dataset to confirm this. On the phone you confirmed that it is the 2024 GHGI figures used throughout, but it would be good to confirm this in writing, as our team thought that the link provided to CCC data set in the appendix was 2023 data.



**Figure 2.** Comparison of the biogenic methane emissions from the 2024 GHGI (blue line) in MtCH<sub>4</sub> and the biogenic methane trajectories used by the Panel.

This analysis was carried out relatively quickly – so there is a chance we have misinterpreted things, but these feel like the major things we’d want to check in and clarify with the Panel prior to finalisation of report and sending to Ministers. Happy to chat further tomorrow morning.

Regards,  
Jessica

**Jessica Bensemman (she/her)**

*Principal Analyst | Kaitātari Mātāmua*

*Market Development – Climate Mitigation*

Ministry for the Environment | Manatū Mō Te Taiao

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---

**From:** Nicola Shadbolt <[N.M.Shadbolt@massey.ac.nz](mailto:N.M.Shadbolt@massey.ac.nz)>  
**Sent:** Wednesday, 27 November 2024 8:59 pm  
**To:** Jessica Bensemenn <[Jessica.Bensemenn@mfe.govt.nz](mailto:Jessica.Bensemenn@mfe.govt.nz)>  
**Subject:** RE: Methane Review Report

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Hello Jess

Just looking for that paragraph and it is this one on page 35:

The MEFs are shown in Figure 14. A number of MEFs were generated that have straight line reductions in methane emissions to 2050 at a specific rate (-5%, -10%, -15%, -20%, on 2022 levels, and -24%, -35%, -47% on 2017 levels) and then constant emissions afterwards. The three MEFs that start in 2017 do so to make them as consistent as possible with the scenarios outlined in the Climate Change Response Act (2019): these all reduce by 10% by 2030, and then reduce further to fit within the -24% to -47% range in 2050. The other MEFs all begin reductions in 2022, and use it as a baseline in order to start from as recent a point as possible (at the time of writing, NZ methane emissions data past 2022 were unavailable).

Then this on page 36:

In Table 2 if the MEF satisfies the no additional warming relative to 2017 levels in 2050 or 2100, the cell is clear. If the MEF fails the test, i.e. there is warming above 2017 levels under that MEF and SSP scenario, by 2050 or 2100, then the cell is shaded grey.

Hope that helps. Happy to tweak wording if required.

Regards  
Nicola

---

**From:** Jessica Bensemenn <[Jessica.Bensemenn@mfe.govt.nz](mailto:Jessica.Bensemenn@mfe.govt.nz)>  
**Sent:** Wednesday, 27 November 2024 3:56 pm  
**To:** Nicola Shadbolt <[N.M.Shadbolt@massey.ac.nz](mailto:N.M.Shadbolt@massey.ac.nz)>  
**Subject:** RE: Methane Review Report

Thanks Nicola, noted as received. Will pass on your contact to designers.

**Jessica Bensemenn (she/her)**

*Principal Analyst | Kaitātari Mātāmua*

*Market Development – Climate Mitigation*

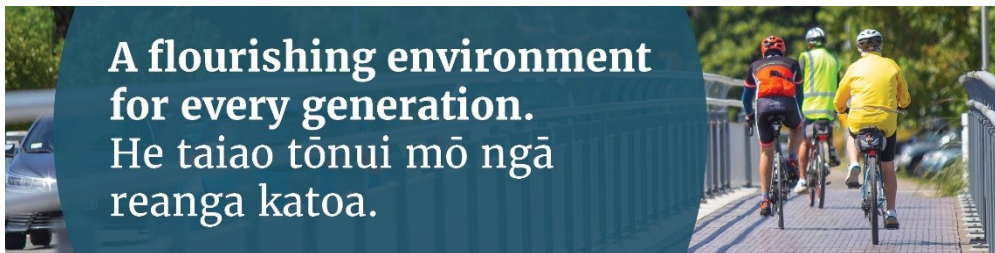
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9(2)(a) | [jessica.bensemenn@mfe.govt.nz](mailto:jessica.bensemenn@mfe.govt.nz) | [environment.govt.nz](http://environment.govt.nz)

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---

**From:** Nicola Shadbolt <[N.M.Shadbolt@massey.ac.nz](mailto:N.M.Shadbolt@massey.ac.nz)>  
**Sent:** Wednesday, 27 November 2024 3:48 pm  
**To:** Jessica Bensemam <[Jessica.Bensemam@mfe.govt.nz](mailto:Jessica.Bensemam@mfe.govt.nz)>  
**Subject:** Methane Review Report

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Hello Jess

Please find attached the report ready to go to the design people. I would appreciate you giving them my number 9(2)(a) in case they have any questions on formatting or content.

Thanks

Regards

Nicola

Nicola M Shadbolt ONZM  
*Professor of Farm & Agribusiness Management*



School of Agriculture & Environment, Massey University, Private Bag 11 222, Palmerston North 4442, New Zealand

**From:** Jessica Bensemenn  
**Sent:** Friday, 29 November 2024 1:42 pm  
**To:** 'Nicola Shadbolt'; Tom Womack  
**Cc:** Cheryl Moir  
**Subject:** RE: Initial 20 pages  
**Attachments:** Copy of Methane 2050 Target base year conversion workings\_291124 correct version.xlsx

Apologies correct version attached now.

**Jessica Bensemenn** ([she/her](#))  
*Principal Analyst | Kaitātari Mātāmua  
Market Development – Climate Mitigation*

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9(2)(a) | [jessica.bensemenn@mfe.govt.nz](mailto:jessica.bensemenn@mfe.govt.nz) | [environment.govt.nz](http://environment.govt.nz)

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---

**From:** Jessica Bensemenn  
**Sent:** Friday, 29 November 2024 1:39 pm  
**To:** Nicola Shadbolt <N.M.Shadbolt@massey.ac.nz>; Tom Womack <Tom.Womack@mfe.govt.nz>  
**Cc:** Cheryl Moir <Cheryl.Moir@mfe.govt.nz>  
**Subject:** RE: Initial 20 pages

Thanks Nicola,

We've attached some working to demonstrate how we consider the results would be presented if calculated against 2017 emissions. Could be useful as a reference for Dave.

Cheers

**Jessica Bensemenn (she/her)**

Principal Analyst | Kaitātari Mātāmua

Market Development – Climate Mitigation

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---

**From:** Nicola Shadbolt <[N.M.Shadbolt@massey.ac.nz](mailto:N.M.Shadbolt@massey.ac.nz)>

**Sent:** Friday, 29 November 2024 1:32 pm

**To:** Jessica Bensemenn <[Jessica.Bensemenn@mfe.govt.nz](mailto:Jessica.Bensemenn@mfe.govt.nz)>; Tom Womack <[Tom.Womack@mfe.govt.nz](mailto:Tom.Womack@mfe.govt.nz)>

**Cc:** Cheryl Moir <[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>

**Subject:** RE: Initial 20 pages

### MFE CYBER SECURITY WARNING

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Hello Jess

Dave has picked this up and making revisions into the clean copy of what was sent earlier. Will send it through as soon as I get it.

Regards

Nicola

---

**From:** Jessica Bensemenn <[Jessica.Bensemenn@mfe.govt.nz](mailto:Jessica.Bensemenn@mfe.govt.nz)>

**Sent:** Friday, 29 November 2024 11:54 am

**To:** Nicola Shadbolt <[N.M.Shadbolt@massey.ac.nz](mailto:N.M.Shadbolt@massey.ac.nz)>; Tom Womack <[Tom.Womack@mfe.govt.nz](mailto:Tom.Womack@mfe.govt.nz)>

**Cc:** Cheryl Moir <[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>

**Subject:** RE: Initial 20 pages

**Importance:** High

Dear Nicola,

We would like to clarify further our intention regarding the feedback on how the results are presented. Can you **please advise urgently** if you are willing to re-look at this issue to see if we can get it addressed in the final version.

We would appreciate if you could discuss this matter with the Panel as soon as possible today, and advise as to whether you are able to reflect this change in your final report. We are also happy to talk to you directly as soon as possible to clarify if there's anything we've missed.

We have referenced the most recent version of the report you've sent through. We consider that based on your emails overnight, this may still contain an inaccuracy in terms of representing the reductions relative to 2017. Based on our calculations there would be around a 1% increase in difference when converted to 2017 emissions levels for those that were previously calculated against 2022 (i.e. the 2-20%).

*To enable a comparison across all the MEFs that are also comparable to the emission reductions for the current biogenic methane target, the reduction in emissions that was used in each MEF is presented in Table 3 as a percentage of the 2017 levels. So, for those MEFs that are based on 2022 that satisfied the NAW condition the amount of their reduction is expressed in Table 3 as a percentage of the 2017 level. There is no difference between the percentages due to the small difference between 2017 levels and 2022 levels.*

Scenarios	2050 target % decrease for no additional warming adjusted to a 2017 base year
SSP1-1.9	-24
SSP1-2.6	-13
SSP2-4.5	-14
SSP4-3.4	-24
SSP4-6.0	-10
SSP3-7.0	0
SSP5-3.4	0
SSP5-8.5	0

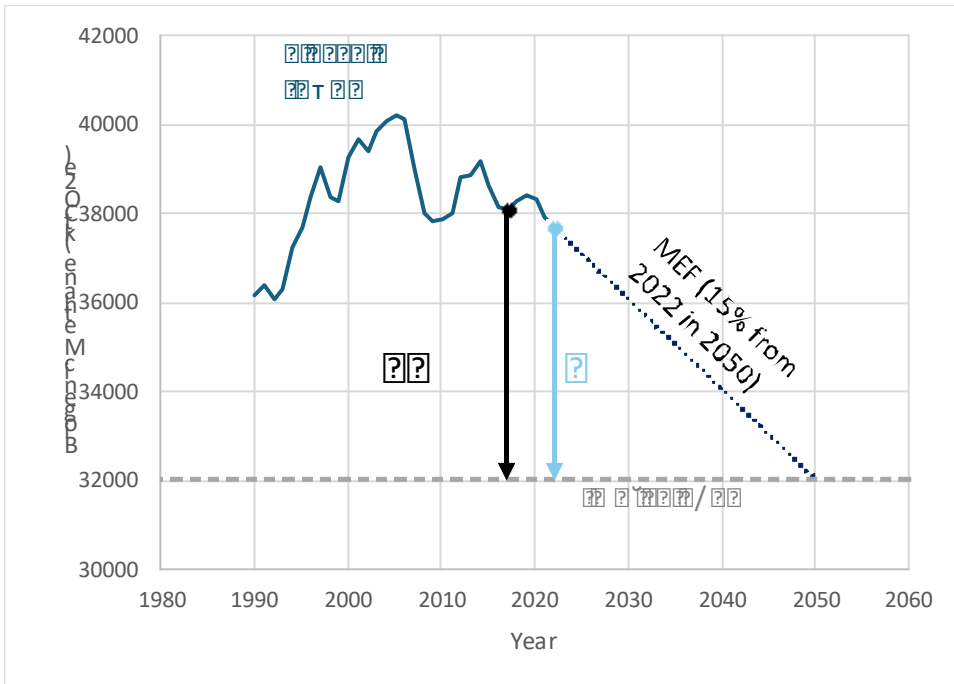
*Table 3. A summary of the minimum straight line 2050 target) in each scenario that met the requirement for no additional warming (relative to 2017) by 2050 adjusted to a 2017 base year.*

### Clarification of our request

The results for the MEFs at 20% and under are expressed as a % reduction relative to 2022 emissions and the results for MEFs for 24% and above are expressed relative to 2017 emissions.

- The ToR does not specify what the year should be used as the % reduction; only 2017 as the warming baseline.
- However, using 2017 and 2022 to express the % reduction for different MEFs in Table 3 may lead to confusion as they are not directly comparable as they expressed relative to a different base year of emissions. MfE stated a preference to the Panel for all targets to be presented (either as the only column or additional column for clarity) in the table as a relative % reduction from the same base year of emissions – preferably 2017. **We understand you have attempted to address this in the latest version.**
- 2017 is the preferred year as this is the year used for the current target (i.e. 24-47% reduction by 2050 relative to 2017 emissions of biogenic methane) and the base year used for warming in the different MEF scenarios – this is likely what Ministers will expect so they make comparisons against the target level (%) relative to the same base year of emissions as the current target (2017)
- MfE estimate that this would shift the fixed MEFs expressed as a reduction relative to 2022 (i.e., those equal to or less than 20%) upward by 1% (as shown in the example below).

- This shift would not be necessary if the Panel have checked that the conversion of the equivalent % reduction in 2050 from 2017 to 2022 still satisfied the NAW condition. **Please advise us if this is what has been done.**



**Jessica Bensemman (she/her)**

Principal Analyst | Kaitātari Mātāmua

Market Development – Climate Mitigation

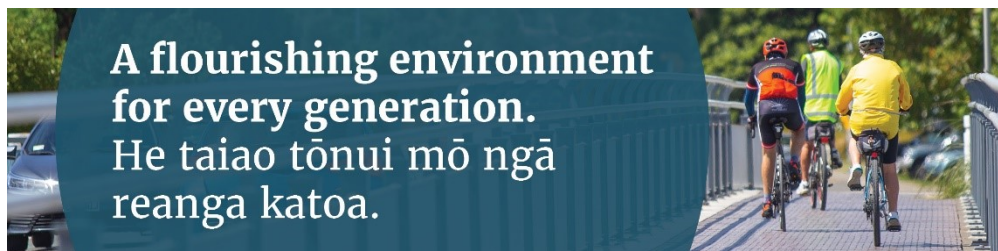
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**From:** Nicola Shadbolt <[N.M.Shadbolt@massey.ac.nz](mailto:N.M.Shadbolt@massey.ac.nz)>  
**Sent:** Friday, 29 November 2024 8:18 am  
**To:** Tom Womack <[Tom.Womack@mfe.govt.nz](mailto:Tom.Womack@mfe.govt.nz)>  
**Cc:** Jessica Bensemann <[Jessica.Bensemann@mfe.govt.nz](mailto:Jessica.Bensemann@mfe.govt.nz)>  
**Subject:** RE: Initial 20 pages

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Hello  
Have had some further thoughts and do not want to worry Dave further today. I am happy that we have tested the NAW condition with the modelling we have done.  
Regards  
Nicola

**From:** Nicola Shadbolt  
**Sent:** Thursday, 28 November 2024 10:23 pm  
**To:** Tom Womack <[Tom.Womack@mfe.govt.nz](mailto:Tom.Womack@mfe.govt.nz)>  
**Cc:** Jessica Bensemann <[Jessica.Bensemann@mfe.govt.nz](mailto:Jessica.Bensemann@mfe.govt.nz)>  
**Subject:** RE: Initial 20 pages

Hello Tom  
So, my understanding is that Dave did 'MEFs were run as fixed % to 2050 from the 2022 emissions'.  
On that basis the table below gives the actual amount of reduction modelled in both CO2-e and CH4 and both of them have the same new percentages that are not different after rounding from the 2022 base.

	CO2-e	CH4
2017	38099.2	1.3606857
2022	37697.55	1.3463411

% applied to 2022	Reduction CO2-e	Revised %	Reduction CH4	Revised %
2%	753.951	2.0%	0.026926821	2.0%
4%	1507.902	4.0%	0.053853643	4.0%
5%	1884.8775	4.9%	0.067317054	4.9%
6%	2261.853	5.9%	0.080780464	5.9%
8%	3015.804	7.9%	0.107707286	7.9%
10%	3769.755	9.9%	0.134634107	9.9%
13%	4900.6815	12.9%	0.175024339	12.9%
14%	5277.657	13.9%	0.18848775	13.9%
20%	7539.51	19.8%	0.269268214	19.8%

I can see that you have instead taken where each run lands in 2050 amount and then determined that as a percentage of the 2017 level. I ran the calculations I did with the panel and they were happy with them so I think they better fit.

Regards  
Nicola

**From:** Tom Womack <[Tom.Womack@mfe.govt.nz](mailto:Tom.Womack@mfe.govt.nz)>  
**Sent:** Thursday, 28 November 2024 9:39 pm  
**To:** Nicola Shadbolt <[N.M.Shadbolt@massey.ac.nz](mailto:N.M.Shadbolt@massey.ac.nz)>  
**Cc:** Jessica Bensemenn <[Jessica.Bensemenn@mfe.govt.nz](mailto:Jessica.Bensemenn@mfe.govt.nz)>  
**Subject:** RE: Initial 20 pages

Hi Nicola,

For a bit more context - If Dave re-ran the models in FaIR calculating the 2050 target emissions as a percent reduction from 2017 and then calculated the linear reduction from 2022 emissions to this 2050 level then that would be all good and the below doesn't apply.

If the MEFs were run as fixed % to 2050 from the 2022 emissions and those fixed % were converted to be expressed from 2017 emissions we would expect an ~1% increase in the reduction required (rounded to the nearest %) at the target levels considered.

As a quick example a 10% reduction from 2022 emission levels in 2050 would convert to a 10.9% (11%) reduction from emissions in 2017.

Year	Emissions (MtCH4)	Example reduction level in 2050	2050 target emissions (MtCH4)	Converted as a % relative to 2017
2017	1.36068585			10.9%
2022	1.346340951	10%	1.211706856	

However, you may have also checked that the exact % required to satisfy no additional warming from 2050 from 2017 emissions would be still be satisfied by the fixed % when expressed from 2022 emissions – in that case you could also ignore the above.

Cheers,  
Tom

---

**From:** Nicola Shadbolt <[N.M.Shadbolt@massey.ac.nz](mailto:N.M.Shadbolt@massey.ac.nz)>  
**Sent:** Thursday, 28 November 2024 9:06 pm  
**To:** Jessica Bensemenn <[Jessica.Bensemenn@mfe.govt.nz](mailto:Jessica.Bensemenn@mfe.govt.nz)>  
**Subject:** RE: Initial 20 pages

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The scientists advised very strongly against going to decimal points so the numbers are rounded. So, they are slightly less but not once rounded.

N

% applied to CCC 2022	revised % MfE
2%	2.0%
4%	4.0%
5%	4.9%
6%	5.9%

8%	7.9%
10%	9.9%
13%	12.9%
14%	13.9%
20%	19.8%

---

**From:** Jessica Bensemann <[Jessica.Bensemann@mfe.govt.nz](mailto:Jessica.Bensemann@mfe.govt.nz)>  
**Sent:** Thursday, 28 November 2024 9:03 pm  
**To:** Nicola Shadbolt <[N.M.Shadbolt@massey.ac.nz](mailto:N.M.Shadbolt@massey.ac.nz)>  
**Cc:** Tom Womack <[Tom.Womack@mfe.govt.nz](mailto:Tom.Womack@mfe.govt.nz)>  
**Subject:** RE: Initial 20 pages

Hi Nicola

I just shared the table with Tom and he responded that he would've expected a potential 1% difference for some of the figures between 2017 and 2022.

Do you have the results below with extra decimals – I know you shared one of the examples earlier.

Cheers,

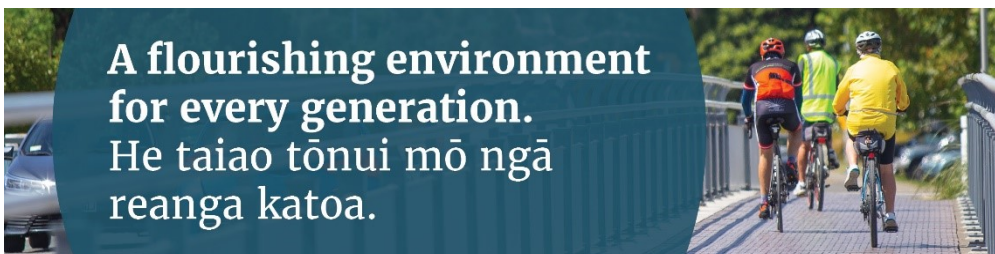
**Jessica Bensemann (she/her)**  
*Principal Analyst | Kaitātari Mātāmua  
Market Development – Climate Mitigation*

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**From:** Jessica Bensemann  
**Sent:** Thursday, 28 November 2024 8:40 pm

To: Nicola Shadbolt <[N.M.Shadbolt@massey.ac.nz](mailto:N.M.Shadbolt@massey.ac.nz)>

Subject: RE: Initial 20 pages

We only need the comparison to 2017.

**Jessica Bensemman** ([she/her](#))

*Principal Analyst | Kaitātari Mātāmua*

*Market Development – Climate Mitigation*

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**From:** Jessica Bensemenn <Jessica.Bensemenn@mfe.govt.nz>  
**Sent:** Thursday, 28 November 2024 8:47 pm  
**To:** N.M Shadbolt [EXTERNAL] (MASSEY)  
**Subject:** RE: Initial 20 pages  
**Attachments:** Re\_ Methane data.eml Note: Email with subject line: "Methane data" was attached to this email

This was our communication with Dave on the data.

**Jessica Bensemenn** [\(she/her\)](#)  
*Principal Analyst | Kaitātari Mātāmua  
Market Development – Climate Mitigation*

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**From:** Nicola Shadbolt <N.M.Shadbolt@massey.ac.nz>  
**Sent:** Thursday, 28 November 2024 8:35 pm  
**To:** Jessica Bensemenn <Jessica.Bensemenn@mfe.govt.nz>  
**Subject:** RE: Initial 20 pages

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So, do you want the table showing identical numbers or just the one column? 9(2)(a)  
He says he requested data series back in July and did not get sent anything.  
Anyway, it is done, just waiting now on the panel's response and your feedback on this table.

N

---

**From:** Jessica Bensemann <[Jessica.Bensemann@mfe.govt.nz](mailto:Jessica.Bensemann@mfe.govt.nz)>  
**Sent:** Thursday, 28 November 2024 8:31 pm  
**To:** Nicola Shadbolt <[N.M.Shadbolt@massey.ac.nz](mailto:N.M.Shadbolt@massey.ac.nz)>  
**Subject:** RE: Initial 20 pages

Thanks Nicola, we didn't think it would make a material difference, but moreso just for clarification of the communication and consistency. Appreciate you doing that.

Thanks for incorporating the latest data as well – I'm sure not what the Panel wanted to be doing on the day they thought they had it finished but definitely worthwhile having that corrected.

I'll update our brief with these numbers for now, and we'll wait for final approved version before sending on for approval internally.

Regards,  
Jessica

**Jessica Bensemann (she/her)**  
*Principal Analyst | Kaitātari Mātāmua  
Market Development – Climate Mitigation*

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**From:** Nicola Shadbolt <[N.M.Shadbolt@massey.ac.nz](mailto:N.M.Shadbolt@massey.ac.nz)>  
**Sent:** Thursday, 28 November 2024 8:16 pm  
**To:** Jessica Bensemann <[Jessica.Bensemann@mfe.govt.nz](mailto:Jessica.Bensemann@mfe.govt.nz)>; andrea.lloyd <[andrea.lloyd@markcreative.nz](mailto:andrea.lloyd@markcreative.nz)>  
**Subject:** RE: Initial 20 pages

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Thanks Jessica, perhaps add 'very helpful' before contribution.

By the way have just finished a complete revise of the results and discussion sections and am sending it out for the panel to approve. The adjustment to 2017 returns the same percentage as the 2022s, see revised table 3 below so I am not sure if you want me to make this comparison in a table as it seems a bit superfluous, or just to say it has been done and just have the right hand column in the table

Regards

Nicola

Scenarios	2050 target % decrease for no additional warming from Table 2	2050 target % decrease for no additional warming relative to 2017 levels
SSP1-1.9	24	-24
SSP1-2.6	13	-13
SSP2-4.5	14	-14
SSP4-3.4	24	-24
SSP4-6.0	10	-10
SSP3-7.0	0	0
SSP5-3.4	0	0
SSP5-8.5	0	0

**From:** Jessica Bensemann <[Jessica.Bensemann@mfe.govt.nz](mailto:Jessica.Bensemann@mfe.govt.nz)>

**Sent:** Thursday, 28 November 2024 7:54 pm

**To:** Nicola Shadbolt <[N.M.Shadbolt@massey.ac.nz](mailto:N.M.Shadbolt@massey.ac.nz)>; andrea.lloyd <[andrea.lloyd@markcreative.nz](mailto:andrea.lloyd@markcreative.nz)>

**Subject:** RE: Initial 20 pages

For acknowledgements, something like this Nicola?

The Panel would like to acknowledge the contribution of peer reviewers Dr. Chris Smith, and Prof. Myles Allen, and science editor Gillian Riley.

**Jessica Bensemann (she/her)**

*Principal Analyst | Kaitātari Mātāmua*

*Market Development – Climate Mitigation*

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A flourishing environment  
for every generation.  
He taiao tōnui mō ngā  
reanga katoa.



**From:** Nicola Shadbolt <[N.M.Shadbolt@massey.ac.nz](mailto:N.M.Shadbolt@massey.ac.nz)>

**Sent:** Thursday, 28 November 2024 10:24 am

**To:** Jessica Bensemenn <[Jessica.Bensemenn@mfe.govt.nz](mailto:Jessica.Bensemenn@mfe.govt.nz)>; andrea.lloyd <[andrea.lloyd@markcreative.nz](mailto:andrea.lloyd@markcreative.nz)>

**Subject:** RE: Initial 20 pages

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Hello Andrea

Yes, more than happy to have you correct for subscripts, CO<sub>2</sub> and CH<sub>4</sub>

Happy for an acknowledgement on the back of the cover page, Jess can provide you with the details of the two reviewers and the science editor. Do you have standard text for that or do you want me to write something? Yes, adjusting figure 1 is fine.

Regards

Nicola

**From:** Jessica Bensemenn <[Jessica.Bensemenn@mfe.govt.nz](mailto:Jessica.Bensemenn@mfe.govt.nz)>

**Sent:** Thursday, 28 November 2024 10:17 am

**To:** andrea.lloyd <[andrea.lloyd@markcreative.nz](mailto:andrea.lloyd@markcreative.nz)>

**Cc:** Nicola Shadbolt <[N.M.Shadbolt@massey.ac.nz](mailto:N.M.Shadbolt@massey.ac.nz)>

**Subject:** RE: Initial 20 pages

Kia ora Andrea,

Thanks so much for sending this through – sharing with panel chair for a response to your questions.

- Do you have a preferred cover image (placeholder image is in at the moment)
- Added an Acknowledgement page - all MfE docs tend to have this - so more of a reminder but if you don't need it, we can remove that.
- We have remade Figure 1 (page 12) just a tidy of colour really - is this ok?
- Noticed on page 4 under Executive Summary, 4th para: CH<sub>4</sub> was written as CH4 - have made the '4' subscript - ok if we fix these as we go?

Just as a heads up – the Panel are making some minor tweaks today, and will send through a tracked changes version of the document. We'll share this with you as we go.

Regards,  
Jessica

**Jessica Bensemenn (she/her)**  
*Principal Analyst | Kaitātari Mātāmua  
Market Development – Climate Mitigation*

Ministry for the Environment | Manatū Mō Te Taiao  
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**From:** Andrea Lloyd <[andrea.lloyd@markcreative.nz](mailto:andrea.lloyd@markcreative.nz)>  
**Sent:** Thursday, 28 November 2024 9:53 am  
**To:** Jessica Bensemenn <[Jessica.Bensemenn@mfe.govt.nz](mailto:Jessica.Bensemenn@mfe.govt.nz)>  
**Subject:** Initial 20 pages

**MFE CYBER SECURITY WARNING**

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Morning Jessica

Just a progress version of the document for you to review is attached.

Couple of notes:

- Do you have a preferred cover image (placeholder image is in at the moment)

- Added an Acknowledgement page - all MfE docs tend to have this - so more of a reminder but if you don't need it, we can remove that.
- We have remade Figure 1 (page 12) just a tidy of colour really - is this ok?
- Noticed on page 4 under Executive Summary, 4th para: CH4 was written as CH4 - have made the '4' subscript - ok if we fix these as we go?

**MFE CYBER SECURITY WARNING**

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Ngā mihi

---

## Andrea Lloyd

Account Director

P: 04 472 8208 | M: 9(2)(a)  
Level 4, 85 The Terrace, Wellington 6143

[markcreative.nz](http://markcreative.nz)



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## Input data

Year	Biogenic methane emissions (ktCO <sub>2</sub> -e) (GHGI 2024)
2017	38099.2
2022	37697.55

MfE approach					Current approach applied				
MEF % applied to 2022	MEF Reduction ktCO <sub>2</sub> -e in 2050 relative to 2022	Modelled MEF 2050 Target (2022)	% Reduction ktCO <sub>2</sub> -e (from 2017 emissions to meet same 2050 Target)	New % applied to 2017 base (i.e., the 2050 target level) (ktCO <sub>2</sub> e)	CHECK	Revised % applied to 2017	Implied reduction ktCO <sub>2</sub> -e from 2017	Implied 2050 Target level	Equal to 2050 target based on 2022 % reduction used
0%	0	37697.55	1.1	37697.55	TRUE	0.0%	0	38099.2	FALSE
2%	753.951	36943.599	3.0	36943.599	TRUE	2.0%	753.951	37345.249	FALSE
4%	1507.902	36189.648	5.0	36189.648	TRUE	4.0%	1507.902	36591.298	FALSE
5%	1884.8775	35812.6725	6.0	35812.6725	TRUE	4.9%	1884.8775	36214.3225	FALSE
6%	2261.853	35435.697	7.0	35435.697	TRUE	5.9%	2261.853	35837.347	FALSE
8%	3015.804	34681.746	9.0	34681.746	TRUE	7.9%	3015.804	35083.396	FALSE
10%	3769.755	33927.795	10.9	33927.795	TRUE	9.9%	3769.755	34329.445	FALSE
13%	4900.6815	32796.8685	13.9	32796.8685	TRUE	12.9%	4900.6815	33198.5185	FALSE
14%	5277.657	32419.893	14.9	32419.893	TRUE	13.9%	5277.657	32821.543	FALSE
15%	5654.6325	32042.9175	15.9	32042.9175	TRUE	14.8%	5654.6325	32444.5675	FALSE
20%	7539.51	30158.04	20.8	30158.04	TRUE	19.8%	7539.51	30559.69	FALSE

**Input data**

Year	Biogenic methane emissions (ktCO2-e)
2017	38099.2
2022	37697.55

MfE approach						Current approach applied			
% applied to 2022	Reduction CO2-e (2022)	2050 Target (2022)	% Reduction CO2-e (from 2017 to meet same 2050 Target)	New % applied to 2017 base	CHECK	% applied to 2017	Reduction CO2-e (2017)	2050 Target (2017)	Equal to 2050 target based on 2022 % reduction used
2%	753.951	36943.599	3.0	36943.599	TRUE	2.00%	761.984	37337.216	FALSE
4%	1507.902	36189.648	5.0	36189.648	TRUE	4.00%	1523.968	36575.232	FALSE
5%	1884.8775	35812.6725	6.0	35812.6725	TRUE	4.90%	1866.8608	36232.3392	FALSE
6%	2261.853	35435.697	7.0	35435.697	TRUE	5.90%	2247.8528	35851.3472	FALSE
8%	3015.804	34681.746	9.0	34681.746	TRUE	7.90%	3009.8368	35089.3632	FALSE
10%	3769.755	33927.795	10.9	33927.795	TRUE	9.90%	3771.8208	34327.3792	FALSE
13%	4900.6815	32796.8685	13.9	32796.8685	TRUE	12.90%	4914.7968	33184.4032	FALSE
14%	5277.657	32419.893	14.9	32419.893	TRUE	13.90%	5295.7888	32803.4112	FALSE
20%	7539.51	30158.04	20.8	30158.04	TRUE	19.80%	7543.6416	30555.5584	FALSE

**From:** Jessica Bensemenn  
**Sent:** Friday, 29 November 2024 11:41 am  
**To:** Beth Hampton; Tom Womack; Cheryl Moir; Hamish Slack  
**Subject:** RE: Methane Review - target base year

Yep I think we can progress on that basis. Will just wait on Cheryl's ok before sending. Nicola is online, so hopefully she can pick this up quickly.

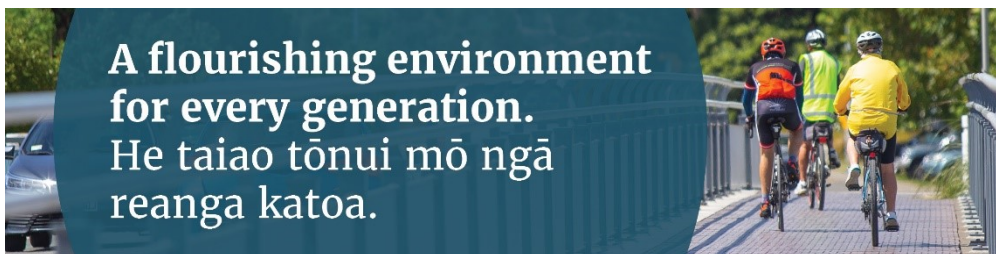
**Jessica Bensemenn** ([she/her](#))  
*Principal Analyst | Kaitātari Mātāmua*  
*Market Development – Climate Mitigation*

Ministry for the Environment | Manatū Mō Te Taiao  
9(2)(a) | [jessica.bensemenn@mfe.govt.nz](mailto:jessica.bensemenn@mfe.govt.nz) | [environment.govt.nz](http://environment.govt.nz)

Please note I work part-time (25 hours per week) split over Monday to Friday. This means there may be some delay in my response to your email.



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---

**From:** Beth Hampton <[Beth.Hampton@mpi.govt.nz](mailto:Beth.Hampton@mpi.govt.nz)>  
**Sent:** Friday, 29 November 2024 11:38 am  
**To:** Jessica Bensemenn <[Jessica.Bensemenn@mfe.govt.nz](mailto:Jessica.Bensemenn@mfe.govt.nz)>; Tom Womack <[Tom.Womack@mfe.govt.nz](mailto:Tom.Womack@mfe.govt.nz)>; Cheryl Moir <[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>; Hamish Slack <[Hamish.Slack@mfe.govt.nz](mailto:Hamish.Slack@mfe.govt.nz)>  
**Subject:** RE: Methane Review - target base year

I think early Monday should be ok (at the latest), provided we get the unformatted version so can have the briefing tidy and ready to dispatch ASAP.

---

**From:** Jessica Bensemenn <[Jessica.Bensemenn@mfe.govt.nz](mailto:Jessica.Bensemenn@mfe.govt.nz)>  
**Sent:** Friday, November 29, 2024 11:35 AM  
**To:** Beth Hampton <[Beth.Hampton@mpi.govt.nz](mailto:Beth.Hampton@mpi.govt.nz)>; Tom Womack <[Tom.Womack@mfe.govt.nz](mailto:Tom.Womack@mfe.govt.nz)>; Cheryl Moir <[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>; Hamish Slack <[Hamish.Slack@mfe.govt.nz](mailto:Hamish.Slack@mfe.govt.nz)>  
**Subject:** RE: Methane Review - target base year

It shouldn't take them long to do to get right. Challenge will be getting back through designer – so ideally Monday morning would be preferential but I wasn't sure if that would be ok with Ministers.

**Jessica Bensemman** ([she/her](#))

*Principal Analyst | Kaitātari Mātāmua  
Market Development – Climate Mitigation*

Ministry for the Environment | Manatū Mō Te Taiao  
9(2)(a) | [jessica.bensemman@mfe.govt.nz](mailto:jessica.bensemman@mfe.govt.nz) | [environment.govt.nz](http://environment.govt.nz)

Please note I work part-time (25 hours per week) split over Monday to Friday. This means there may be some delay in my response to your email.



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---

**From:** Beth Hampton <[Beth.Hampton@mpi.govt.nz](mailto:Beth.Hampton@mpi.govt.nz)>  
**Sent:** Friday, 29 November 2024 11:33 am  
**To:** Jessica Bensemman <[Jessica.Bensemman@mfe.govt.nz](mailto:Jessica.Bensemman@mfe.govt.nz)>; Tom Womack <[Tom.Womack@mfe.govt.nz](mailto:Tom.Womack@mfe.govt.nz)>; Cheryl Moir <[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>; Hamish Slack <[Hamish.Slack@mfe.govt.nz](mailto:Hamish.Slack@mfe.govt.nz)>  
**Subject:** RE: Methane Review - target base year

Thanks Jess! In terms of delay to Ministers by a day or two?

---

**From:** Jessica Bensemman <[Jessica.Bensemman@mfe.govt.nz](mailto:Jessica.Bensemman@mfe.govt.nz)>  
**Sent:** Friday, November 29, 2024 11:28 AM  
**To:** Tom Womack <[Tom.Womack@mfe.govt.nz](mailto:Tom.Womack@mfe.govt.nz)>; Cheryl Moir <[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>; Hamish Slack <[Hamish.Slack@mfe.govt.nz](mailto:Hamish.Slack@mfe.govt.nz)>  
**Cc:** Beth Hampton <[Beth.Hampton@mpi.govt.nz](mailto:Beth.Hampton@mpi.govt.nz)>  
**Subject:** RE: Methane Review - target base year  
**Importance:** High

Draft email below. Beth – noting your email – based on the latest version from panel that went to designers which includes the content below, the Panel consider that they have responded to our request. So it's matter of getting it fixed up. If they keep it as is, it means we would have to inform Ministers there's a potential error – not just that it's not presented the way we would prefer.

Dear Nicola,

We would like to clarify further our intention regarding the feedback on how the results are presented.

We have referenced the most recent version of the report you've sent through. We consider that based on your emails overnight, this may still contain an inaccuracy in terms of representing the reductions relative to 2017. Based on our calculations there would be around a 1% increase in difference when converted to 2017 emissions levels for those that were previously calculated against 2022 (i.e. the 2-20%).

To enable a comparison across all the MEFs that are also comparable to the emission reductions for the current biogenic methane target, the reduction in emissions that was used in each MEF is presented in Table 3 as a percentage of the 2017 levels. So, for those MEFs that are based on 2022 that satisfied the NAW condition the amount of their reduction is expressed in Table 3 as a percentage of the 2017 level. There is no difference between the percentages due to the small difference between 2017 levels and 2022 levels.

Scenarios	2050 target % decrease for no additional warming adjusted to a 2017 base year
SSP1-1.9	-24
SSP1-2.6	-13
SSP2-4.5	-14
SSP4-3.4	-24
SSP4-6.0	-10
SSP3-7.0	0
SSP5-3.4	0
SSP5-8.5	0

Table 3. A summary of the minimum straight line 2050 target) in each scenario that met the requirement for no additional warming (relative to 2017) by 2050 adjusted to a 2017 base year.

We would appreciate if you could discuss this matter with the Panel as soon as possible today, and advise as to whether you are able to reflect this change in your final report. We are also happy to talk to you directly as soon as possible to clarify if there's anything we've missed.

We understand that this could require some additional time and are willing to delay delivering the report to Ministers tomorrow to enable the Panel to incorporate the changes.

**Clarification of our request**

The results for the MEFs at 20% and under are expressed as a % reduction relative to 2022 emissions and the results for MEFs for 24% and above are expressed relative to 2017 emissions.

- The ToR does not specify what the year should be used as the % reduction; only 2017 as the warming baseline.
- However, using 2017 and 2022 to express the % reduction for different MEFs in Table 3 may lead to confusion as they are not directly comparable as they expressed relative to a different base year of emissions. MfE stated a preference to the Panel for all targets to be presented (either as the only column or additional column for clarity) in the table as a relative % reduction from the same base year of emissions – preferably 2017. **We understand you have attempted to address this in the latest version.**
- 2017 is the preferred year as this is the year used for the current target (i.e. 24-47% reduction by 2050 relative to 2017 emissions of biogenic methane) and the base year used for warming in the different MEF scenarios – this is likely what Ministers will expect so they make comparisons against the target level (%) relative to the same base year of emissions as the current target (2017)
- MfE estimate that this would shift the fixed MEFs expressed as a reduction relative to 2022 (i.e., those equal to or less than 20%) upward by 1% (as shown in the example below).
- This shift would not be necessary if the Panel have checked that the conversion of the equivalent % reduction in 2050 from 2017 to 2022 still satisfied the NAW condition. **Please advise us if this is what has been done.**





**A flourishing environment  
for every generation.**  
He taiao tōnui mō ngā  
reanga katoa.



**From:** Tom Womack <[Tom.Womack@mfe.govt.nz](mailto:Tom.Womack@mfe.govt.nz)>

**Sent:** Friday, 29 November 2024 10:43 am

**To:** Jessica Bensemam <[Jessica.Bensemam@mfe.govt.nz](mailto:Jessica.Bensemam@mfe.govt.nz)>; Cheryl Moir <[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>; Hamish Slack <[Hamish.Slack@mfe.govt.nz](mailto:Hamish.Slack@mfe.govt.nz)>

**Subject:** Methane Review - target base year

Hi Cherly/Jess,

I thought it would be useful to provide a general commentary in what I understand around some of the choices and my perspective on whether this meets the ToR criteria. The issue we have been discussing in in point 4.

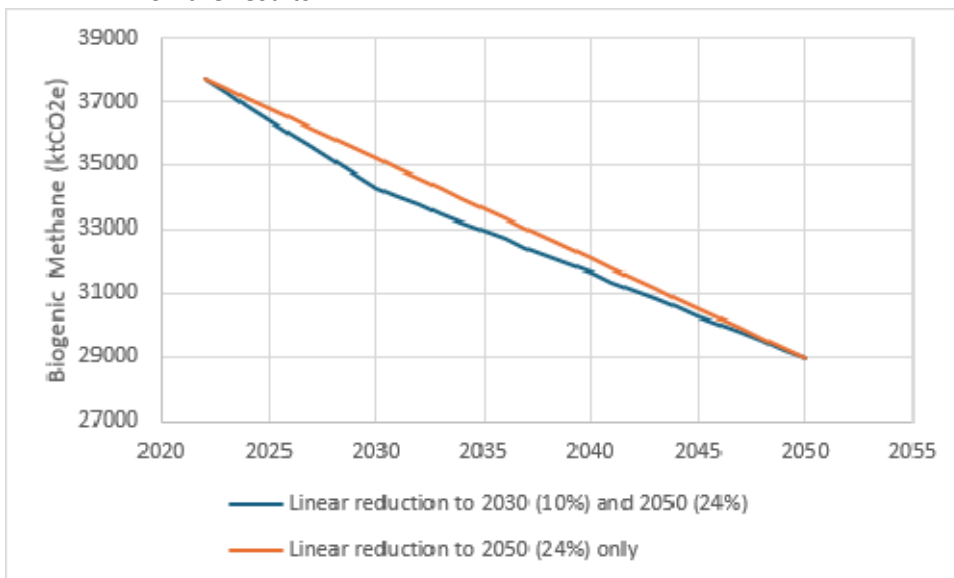
Based on what Nicola has provided in not clear if they have or plan to include the target level as a % reduction from 2017 for MEFs that are currently expressed as a % reduction from 2022 (those MEFs based on 2050 reduction equal to or under 20%). From my perspective:

- If they plan to leave them as is in the final report (not the additional table Nicola sent through), i.e., relative to 2022 and 2017, that is fine we can provide the conversion later. It would be useful to include a caveat that using a 2017 or 2022 base year for calculating the effective % reduction to 2050 are not directly comparable.
- If the table Nicola sent through is this conversion for 2017 – then this is incorrect (the table sent through is just the same % calculating with equivalent units – MtCO<sub>2e</sub> and MtCH<sub>4</sub>. It's no clear why they deviate at the decimal point from the original – maybe from rounding?). If they wish to include this then we would suggest they are clear and what they have done.
- If they haven't and wish to include then the issue is shown in the figure in point 4 below (this is a simple conversion taking the implied 2050 target level for those MEFs calculated relative to 2022 and then recalculating what that would be from 2017).
- There's also a chance the Panel have checked or made changes and all is good – but this doesn't seem to be the case from the email chain.

#### Methodological choices of the Panel:

1. The Panel have modelled the reductions necessary to satisfy the condition of achieving no additional warming in 2050 from 2017 levels of warming from New Zealand emissions of biogenic methane in all MEF scenarios.
  - This is as the specified baseline level of warming indicated in the ToR.

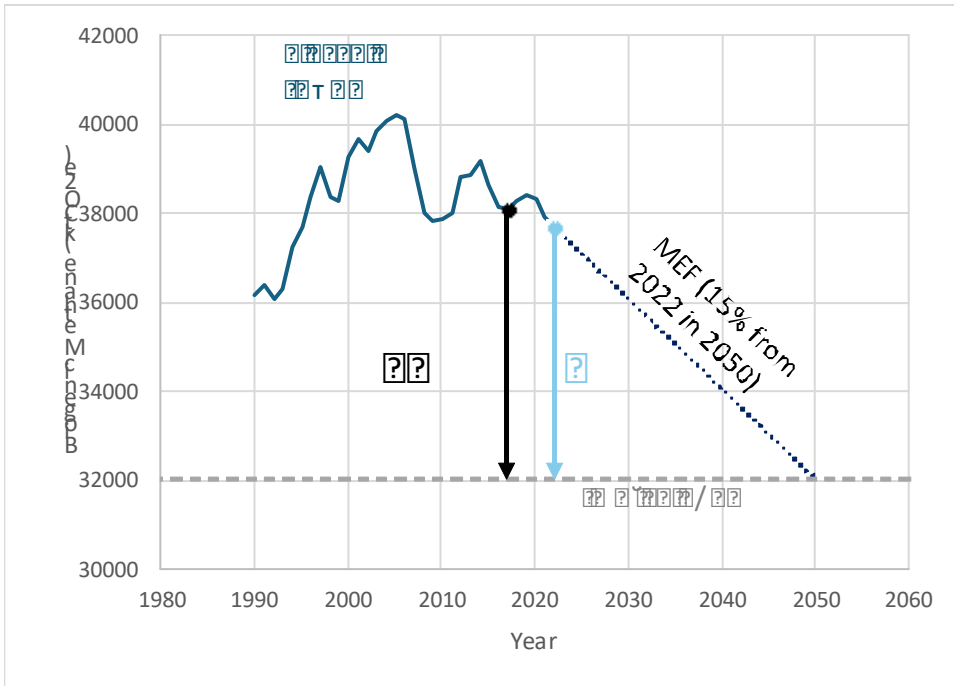
2. Our understanding is that the Panel has run scenarios (methane emission future [MEFs]) of fixed % (and also per annum % decreases) all starting from the latest data available – that is 2022 emissions of biogenic methane as captured in New Zealand’s 2024 GHGI.
  - Previous studies have solved for the exact % reduction required in 2050 to achieve no additional warming under different global scenarios. Our understanding is that the Panel have only calculated fixed % scenarios to 2050 and checked to see if these satisfied achieving no additional warming. This is a modelling choice by the Panel and would technically meet the ToR (for 2050).
  - This modelling choice means that the % given indicates whether a fixed % will satisfy NAW in 2050 not what % will exactly achieve NAW in 2050. This does make converting the base year of emissions for the target level in 2050 slightly more confusing as it’s not exactly would achieve NAW, based on the understanding outlined above this would be below the % given.
  - MfE/MPI sought clarification on this approach and their interpretation of the approach to 2100 – we had intended that the Panel would calculate what additional reduction would be required from 2050 to 2100 to maintain NAW – whereas the Panel have calculated if the same reduction modelled for 2050 would satisfy NAW in 2100. The Panel has no changed their approach to 2100 based on the feedback given.
  
3. Our understanding is that the Panel have calculated a linear reduction from 2022 to 2050 for MEF scenarios equal to, or less than, a 20% reduction. For MEFs based on 24% and above, the Panel have calculated a linear (not stated but assumed to be the case) reduction from 2022 to 2030 (to 10%) and then a linear reduction from 2030 to the respective MEF % in 2050 (i.e., 24%, 35% and 47%).
  - This is a modelling choice by the Panel that meets the ToR. This means there are slightly different assumptions for the MEFs equal to/above and below 24%. As a linear reduction to 10% in 2030 and then linear to 24% is a similar trajectory it is likely this assumption would probably only have a minor impact on the results.



4. The results for the MEFs at 20% and under are expressed as a % reduction relative to 2022 emissions and the results for MEFs for 24% and above are expressed relative to 2017 emissions.
  - The ToR does not specify what the year should be used as the % reduction only 2017 as the warming baseline.
  - However, using 2017 and 2022 to express the % reduction for different MEFs in Table 3 may lead to confusion as they are not directly comparable as they expressed relative to a different base year of emissions.
  - MfE stated a preference to the Panel for all targets to be presented (either as the only column or additional column for clarity) in the table as a relative % reduction from the same base year of emissions – preferably 2017.
  - 2017 is the preferred year as this is the year used for the current target (i.e. 24-47% reduction by 2050 relative to 2017 emissions of biogenic methane) and the base year used for warming in the different

MEF scenarios – this is likely what Ministers will expect so they make comparisons against the target level (%) relative to the same base year of emissions as the current target (2017)

- MfE estimate that this would shift the fixed MEFs expressed as a reduction relative to 2022 (i.e., those equal to or less than 20%) upward by 1% (as shown in the example below).
- This shift would not be necessary if the Panel have checked that the conversion of the equivalent % reduction in 2050 from 2017 to 2022 still satisfied the NAW condition.



**From:** Jessica Bensemam  
**Sent:** Monday, 2 December 2024 10:13 am  
**To:** Sam Buckle; Davinia Gazzard-Steele; Hemi Smiler; Becky Prebble  
**Cc:** Cheryl Moir; Meredith Davis; Stephen Goodman  
**Subject:** FOR ACTION TODAY: Talking Points for Officials meeting on Methane science and target review  
**Attachments:** Methane Science Targets Review - FINAL.pdf; FINAL VERSION - Methane brief 29 November.pdf; FINAL VERSION - Methane brief 29 November.docx; Appendix 4 - Thank you letter to panel.docx

**Importance:** High

Kia ora koutou,

### Talking points for officials meeting: Methane science and target review

- Ministers (MoA/MCC) were sent a copy of the final methane review report on Friday evening accompanied by a brief outlining the key findings and immediate next steps. MCC is unlikely to have had a chance to read the report yet (likely today) so will have limited awareness of contents.
- A **Communications plan** to support the release is with Ministers offices. We understand the proposed release is for the afternoon 4<sup>th</sup> December (after the ETS auction) before the tabling of the CCC 2050 Target review on the 5<sup>th</sup>. This will occur through a Ministerial Press Release. We are proposing that all media questions are directed to Ministers and not the Panel chair after release. **Seek confirmation of release date and Ministers comfortable with approach to release.**
- **Meeting with Panel Chair:** The Panel chair is available to meet with Ministers to discuss the findings of the report ahead of release. We understand this is pencilled in for Tuesday 3<sup>rd</sup> 8am but not yet confirmed. **Seek confirmation Minister would like opportunity to meet Panel chair.**
  - We will work with the Panel today to make some final minor editorial corrections to the report ahead of publication.
- **Details of the report:**
  - Results in the report have changed since the original draft\*. The level of target reduction needed for No Additional Warming under some of the scenarios has increased since the draft. This is due to improvements in data used in modelling and ensuring that all targets were calculated off the 2017 baseline year.
  - Overall the target range under all the scenarios is still between 0-24%.
    - In the scenario where global emissions are reduced to achieve a 1.5 degree warming goal, New Zealand's biogenic emissions must reduce around **24%** to achieve no additional warming from 2017.
    - If emissions are maintained of current trajectories "middle of the road" pathways, emissions of around **14-15%** would be needed.
    - If the world does not manage to make cuts to emissions, then New Zealand could maintain 2022 emissions levels to achieve no additional warming in 2050.
  - In general, **the higher the emissions from the rest of world** (particularly of methane itself) **New Zealand must reduce biogenic methane by less to achieve no additional warming from 2017 in 2050.** This is because if global methane concentrations are rising, the radiative forcing caused by every tonne of methane emitted by New Zealand decreases. However, this is not a strict relationship and there are some scenarios where greater reductions of emissions are required even with higher global emissions.

- The report raises some points related to the Ministries work area:
  - Criticism of how the current target was set in 2019, including the source of the 24-47% target range (IPCC modelling), the lack of economic analysis on the final range, and consideration of the impact on food production.
- Criticism of inventory reporting that converts methane emissions to CO2 equivalents and does not mention methane being a short lived gas.

### Next steps

- The Minister has already expressed a preference to review the methane target alongside analysis of the Climate Change Commission 2050 Target review. The Minister of Agriculture has not yet provided feedback on this. 9(2)(f)(iv)
- 9(2)(f)(iv)

**\*Comparison table below between draft and final.** Please note there were inaccuracies in the data for draft version, and some percentages were compared against 2017 emissions and some against 2022, which has been rectified in the final. There is a chance that some of the 0% in the version below may still increase to 1% for the final publication but we consider this is a minor change (to be discussed with Panel today).

	Scenario summary	Linear reductions by 2050 (FINAL)	DRAFT VERSION
SP1-1.9	“Sustainability”	24%	24%
SSP1-2.6	Low challenges to mitigation and adaptation	14%	10%
SSP2-4.5	“Middle of the road” Medium challenges to mitigation and adaptation	15%	10%
SSP4-3.4	“Inequality”	24%	20%
SSP4-6.0	Low challenge to mitigation, High challenges to adaptation	11%	10%
SSP5-3.4	“Fossil-fuelled development” High challenge to mitigation, low challenge to adaptation	0%	0%
SSP3-7.0	“Regional rivalry” High challenges to mitigation and adaptation	0%	0%
SSP5-8.5	“Fossil-fuelled development” High challenge to mitigation, low challenge to adaptation	0%	10%

**Jessica Bensemman** ([she/her](#))

Principal Analyst | Kaitātari Mātāmua

Market Development – Climate Mitigation

Ministry for the Environment | Manatū Mō Te Taiao

9(2)(a) | [jessica.bensemman@mfe.govt.nz](mailto:jessica.bensemman@mfe.govt.nz) | [environment.govt.nz](http://environment.govt.nz)

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---

**From:** James Coombes <James.Coombes@parliament.govt.nz>

**Sent:** Wednesday, 4 December 2024 10:30 am

**To:** Jessica Bensemman <Jessica.Bensemman@mfe.govt.nz>; Jamie Molea [EXTERNAL] (Parliament) <Jamie.Molea@parliament.govt.nz>

**Cc:** Sam Buckle <Sam.Buckle@mfe.govt.nz>; Hemi Smiler <Hemi.Smiler@mfe.govt.nz>; Cheryl Moir <Cheryl.Moir@mfe.govt.nz>; Mark Vink <Mark.Vink@mfe.govt.nz>; Stephen Goodman <Stephen.Goodman@mfe.govt.nz>; Meredith Davis <Meredith.Davis@mfe.govt.nz>; Katie Mattera <Katie.Mattera@mfe.govt.nz>; Daniel Rimmer <Daniel.Rimmer@mfe.govt.nz>; Gemma Freeman <Gemma.Freeman@mfe.govt.nz>; Ministerials <ministerials@mfe.govt.nz>

**Subject:** RE: **CLASSIFICATION** - Methane Science and Target Review report

Kia ora Jess,

For your records, please find the signed BRF-5634 **attached**.

I'll send through a copy of the final 'thank you' letter sent to Nicola once McClay's office give it to me.

Ngā mihi,

**James Coombes (he/him) | Private Secretary – Climate Change | Office of Hon Simon Watts MP**  
Minister of Climate Change  
Waea Pūkoro : 9(2)(a)

---

**From:** Jessica Bensemann <[Jessica.Bensemann@mfe.govt.nz](mailto:Jessica.Bensemann@mfe.govt.nz)>

**Sent:** Friday, 29 November 2024 7:58 PM

**To:** James Coombes <[James.Coombes@parliament.govt.nz](mailto:James.Coombes@parliament.govt.nz)>; Jamie Molea <[Jamie.Molea@parliament.govt.nz](mailto:Jamie.Molea@parliament.govt.nz)>

**Cc:** Sam Buckle <[Sam.Buckle@mfe.govt.nz](mailto:Sam.Buckle@mfe.govt.nz)>; Hemi Smiler <[Hemi.Smiler@mfe.govt.nz](mailto:Hemi.Smiler@mfe.govt.nz)>; Cheryl Moir

<[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>; Mark Vink <[Mark.Vink@mfe.govt.nz](mailto:Mark.Vink@mfe.govt.nz)>; Stephen Goodman

<[Stephen.Goodman@mfe.govt.nz](mailto:Stephen.Goodman@mfe.govt.nz)>; Meredith Davis <[Meredith.Davis@mfe.govt.nz](mailto:Meredith.Davis@mfe.govt.nz)>; Katie Mattera

<[Katie.Mattera@mfe.govt.nz](mailto:Katie.Mattera@mfe.govt.nz)>; Daniel Rimmer <[Daniel.Rimmer@mfe.govt.nz](mailto:Daniel.Rimmer@mfe.govt.nz)>; Gemma Freeman

<[Gemma.Freeman@mfe.govt.nz](mailto:Gemma.Freeman@mfe.govt.nz)>; Ministerials <[ministerials@mfe.govt.nz](mailto:ministerials@mfe.govt.nz)>

**Subject:** CLASSIFICATION - Methane Science and Target Review report

Good evening James and Jamie,

Please find attached the final of the Methane Science and Target Review report, and associated brief. We have also included a draft thank you letter to the panel (appendix four of the brief) – our apologies that the letterhead formatting has gone a bit odd.

Please note that the attached version of the report may be very slightly edited ahead of publication – but this does not affect the numbers therein.

Warm regards,

**Jessica Bensemann (she/her)**

*Principal Analyst | Kaitātari Mātāmua*

*Market Development – Climate Mitigation*

Ministry for the Environment | Manatū Mō Te Taiao

9(2)(a) | [jessica.bensemann@mfe.govt.nz](mailto:jessica.bensemann@mfe.govt.nz) | [environment.govt.nz](http://environment.govt.nz)

Please note I work part-time (25 hours per week) split over Monday to Friday. This means there may be some delay in my response to your email.



Ministry for the  
**Environment**  
Manatū Mō Te Taiao



Priority – High

Security Level – CLASSIFICATION

**Ministry for Primary Industries**  
Manatū Ahu Matua



Ministry for the  
**Environment**  
Manatū Mō Te Taiao

**To:** Hon Todd McClay, Minister of Agriculture  
Hon Simon Watts, Minister of Climate Change

**From:** Jane Chirside, Director, Resources and Rural Communities, Ministry for the  
Primary Industries  
Hemi Smiler, General Manager, Mitigation Policy, Ministry for the Environment

## Final Methane Science and Target Review report

<b>Date</b>	29 November 2024	<b>Reference:</b>	MPI: B24-0735 MfE: BRF-5634
-------------	------------------	-------------------	--------------------------------

Decision required	Date decision required by
YES <input type="checkbox"/> / NO <input checked="" type="checkbox"/>	N/A

### Purpose

- This briefing provides you a copy of the final Methane Science and Target Review report and outlines immediate next steps.

### Background

- On 8 November 2024, the independent advisory panel (the Panel) provided its draft report to Ministers and relevant officials. They have provided you a final report on Friday 29 November (**Appendix One**).
- On 25 November, Cabinet considered your proposal to publish the final report and:
  - authorised the Ministers (Agriculture and Climate Change) to publicly release the independent panel's final report on 4 December 2024, ahead of the Climate Change Commission's report;
  - noted that the Minister of Climate Change will be tabling the Climate Change Commission's review of New Zealand's legislated 2050 target on 5 December 2024;
  - 9(2)(f)(iv) [REDACTED]

## Final report from the Panel

---

### *Final Methane Science and Target Review Report – key findings*

3. The Panel reviewed the latest methane science and has sought to provide an accessible explanation of the science. A summary of what is included in this section is provided in **Appendix Two**.
4. A summary of the final report's key findings is below. Officials will provide further advice, including in-depth analysis of the report, in early 2025.

### *What a 'no additional warming' target could be for New Zealand*

5. The Terms of Reference (ToR) asked the Panel to determine what a target for New Zealand's biogenic methane would look like based on the principle of no additional warming from 2017 levels. The Panel has calculated a range of targets that could meet the principle of no additional warming based on potential future climate scenarios<sup>1</sup>.
6. In general, ***the higher the emissions from the rest of world*** (particularly of methane itself) ***New Zealand must reduce biogenic methane by less to achieve no additional warming in 2050***. This is because if global methane concentrations are rising, the radiative forcing caused by every tonne of methane emitted by New Zealand decreases. However, this is not a strict relationship and there are some scenarios where greater reductions of emissions are required even with higher global emissions<sup>2</sup>.
7. The Panel chose sets of methane reduction targets to test what levels of reduction in New Zealand's emissions would meet the principle of no additional warming across the scenarios. They modelled a range of cuts from 2 – 20 per cent, and 24, 35, and 47 per cent (related to New Zealand's existing target range<sup>3</sup>), to test under which IPCC scenarios and which level of methane reduction the condition of no additional warming would be met for 2050 and 2100. They also looked at the per annum decreases required to meet the no additional warming principle.

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<sup>1</sup> The report uses eight global scenarios from the IPCC to calibrate the future warming impact of New Zealand's biogenic methane emissions and model whether certain levels of biogenic methane emissions reductions will satisfy the target of achieving no additional warming in 2050 and 2100. The scenarios represent narratives for energy use, land use, air pollution control and GHG emissions based on evolving socio-economic and technological conditions.

<sup>2</sup> For example, in scenario SSP4-3.4 it is assumed there will be burning of large quantities of biomass that could extend the lifetime of methane, and therefore require greater reductions to achieve no additional warming than SSP1-2.6, which is likely to limit global temperature rise to below 2°C by the end of the century.

<sup>3</sup> For the 2-20% cuts, the Panel used linear reductions from actual data in 2022 through to 2050. For the 24-47% cuts, the Panel extrapolated actual data from 2022 to achieve a 10% reduction in 2030 (as per current legislated target) and then linear reductions to 2050.

8. **Appendix Three** sets out the range of reductions in biogenic methane according to the Panel's analysis that satisfy the condition of no additional warming, including:
- a. In a scenario where the rest of the world rapidly increases its climate policies to meet the 1.5 degrees warming Paris goal, then reducing New Zealand's biogenic methane emissions by **24% by 2050** would satisfy the goal of achieving no additional warming on 2017 levels by 2050.
  - b. In scenarios where global emissions of greenhouse gasses do not reduce rapidly in the next couple of decades, cuts on 2017 biogenic methane emission levels of around **14-15% by 2050** would satisfy the goal of achieving no additional warming on 2017 levels by 2050.
  - c. For high emission scenarios in which countries contribute less in the way of emissions reductions maintaining 2022 domestic emissions levels is sufficient for no additional warming.

#### *Other matters raised*

9. Whilst not required by the ToR or relevant to the report findings, the panel has included an appendix with an explanation of emissions metrics (particularly GWP\*), as this topic was raised in several submissions to the Panel.
10. The report criticises how the biogenic methane component of the 2050 target was determined in 2019, including:
- a. how the IPCC special report on Global Warming of 1.5°C (IPCC special report) was used in analysis. The modelled pathways used were illustrative and only models that managed to meet the 1.5°C targets were included. Therefore, the pathways "*illustrate relative global differences in mitigation strategies, but do not represent central estimates, national strategies, and do not indicate requirements.*"
  - b. That the IPCC special report modelled pathways do not consider New Zealand's domestic circumstances, as New Zealand's economy is aggregated alongside Australia or included in the OECD Asia-Pacific grouping.
  - c. The Panel also notes that food production was not mentioned in the RIA to inform analysis on competitiveness, leakage, and innovation.
11. While the report acknowledges that New Zealand is required to report our emissions internationally as carbon dioxide equivalence (CO<sub>2</sub>-e), the report criticises the New Zealand GHG Inventory Report for not mentioning that methane is a short-lived gas, (on the basis that the same international requirements do also encourage the reporting of other relevant information).

### *Key changes from draft report*

12. Independent peer reviews of the report were conducted by Dr Chris Smith (who co-developed the climate model used for the report) and Professor Myles Allen (Climate Scientist, University of Oxford), both of whom are international experts in this field.
13. MfE and MPI also reviewed the draft report against the ToR and provided feedback to the panel on areas where there appeared to be departure from the ToR, or factual inaccuracies.
14. As a result of the review process, and additional work undertaken by the Panel, changes to the report have been made for clarity. Some of the estimated target reductions to achieve no additional warming by 2050 have changed from the draft version of the report<sup>4</sup>. This is due to improvements made to the data used in the modelling, and clarification to ensure all targets are calculated against 2017 emissions.
15. Officials consider that the final report meets the terms of reference.

### *Submissions*

16. A process was provided through the Ministry for Environment's website for interested parties, including iwi/Māori, to submit relevant evidence to the panel for their consideration. A total of 23 submissions were received. Most submissions were from individuals providing a range of reasons for their positions in relation to their support, or lack of, for the purpose of the Methane Science and Target review, inclusion of 'no additional warming' in the review, and their views on the biogenic methane component of New Zealand's 2050 target.

### **Next steps**

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#### *Publication of the methane report*

17. On 25 November, Cabinet agreed to publicly release the report by 4 December, prior to the release of the Commission's report on the 2050 target on 5 December [CAB-24-MIN-0465 refers]. Your offices' have been provided communications material to support the public release of the Panel's report. Ahead of this, you may wish to send a thank you letter acknowledging receipt of the report to the Chair; a draft is attached at **Appendix Four**.

#### *Publication of the Climate Change Commission's advice*

18. You, the Minister of Climate Change with a forwarding recommendation to the Minister of Agriculture, have received separate advice on the Climate Change Commission's 2050 Target review and advice on setting the fourth emissions budget (BRF-5530). The Commission's report will be tabled in Parliament on 5 December and so will be public shortly after the release of the methane report. Officials will provide further advice on responding to the Commission's review in early 2025.

---

<sup>4</sup> The reduction necessary under a low emissions future has remained the same at 24 per cent.

19. Note that the Commission proposes strengthening New Zealand 2050 targets for both biogenic methane and long-lived greenhouse gases. They propose:
- a. **35 to 47 percent reduction in biogenic methane by 2050** from 2017 levels – up from the current 24 to 47 percent.
  - b. Net negative 20 MtCO<sub>2</sub>e by 2050 for long-lived gases – up from net zero.
  - c. The 2030 biogenic methane target of 10 percent reduction below 2017 emissions remain unchanged.
20. The Commission argues that stronger 2050 targets are justified by more ambitious targets recently adopted by comparable countries, evidence that the negative impacts of climate change are worse than previously expected, and that the world is not on track to meet the 1.5°C target in legislation.
21. On biogenic methane, at page 69 of their report, the Commission criticises the concept of ‘no additional warming’ as an inadequate contribution to global efforts to limit warming to 1.5°C. According to the Commission, a ‘*no additional warming*’ target for biogenic methane would be less ambitious than the current biogenic methane component of the 2050 target. This creates a choice between 1) allowing more warming than the current overall 2050 target, or 2) trying to maintain the warming impacts of the current 2050 target by requiring faster and further reductions of other greenhouse gases<sup>5</sup>.

9(2)(f)(iv)

22. 9(2)(f)(iv)

23. We will provide you advice in early 2025, 9(2)(f)(iv)
- In the interim we will conduct in-depth analysis on the methane considerations in both reports and begin to develop potential options for the methane component of the 2050 target, which will include initial advice on system implications. This will be carried out alongside initial analysis on the totality of the Climate Change Commission’s advice.

<sup>5</sup> Commission modelling equates a sustained one percentage point increase in methane emissions (e.g. going from a 24 percent 2050 target to 23 percent) with the warming impact of a reduction of other greenhouse gases of 36-44 Mt CO<sub>2</sub>e (roughly a year’s worth of emissions from transport, energy and industrial processes).

## Recommendations

---

24. It is recommended that you:

- a) **Note** that the Methane Science and Target Review report has now been finalised, and is attached at Appendix One

YES / NO

9(2)(a)

Jane Chirnside  
Director  
Resources and Rural Communities  
Policy and Trade  
Ministry for the Primary Industries

Hon Todd McClay  
Minister of Agriculture  
/ / 2024



Hemi Smiler  
General Manager  
Mitigation Policy  
Climate Change Mitigation and Resource  
Efficiency  
Ministry for the Environment

Hon Simon Watts  
Minister of Climate Change  
/ / 2024

Priority – High

Security Level – CLASSIFICATION

## **Appendix One: Final Methane Science and Targets Review report**

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Refused under section 18(d) of the Act as the report is already publicly available at: <https://environment.govt.nz/publications/methane-science-and-target-review/>

## Appendix Two: Summary of methane science section

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The report included a section on the standard and well-established science of methane. Key aspects of this section are included here.

- Methane contributes to global warming by trapping heat in the atmosphere, absorbing specific wavelengths of energy, and producing additional warming agents like ozone, water vapour, and carbon dioxide, with its climate impact influenced by the overall atmospheric composition and changes over time.
- Human activities, particularly agriculture (livestock digestion and manure management), wetlands, landfills, and the extraction of fossil fuels, are the primary sources of methane emissions. Methane is also released during the incomplete combustion of organic materials like wood and crop residues. Human activities have more than doubled methane levels since pre-industrial times.
- In addition to anthropogenic sources, methane is naturally emitted from wetlands, peatlands, freshwater bodies, termites, and geological sources like tectonic faults and volcanic activity. Climate change may further increase methane release by destabilising methane hydrates in permafrost and deep-sea ice.
- In New Zealand, methane emissions are primarily biogenic, originating from agriculture (especially livestock) and waste. Emissions have remained stable in recent years, with a slight decrease since 2017. Global methane levels have risen due to biological sources such as wetlands, agriculture, and waste, influenced by wetter conditions and COVID-19 lockdowns.
- Methane breaks down in the atmosphere through reactions with hydroxyl radicals<sup>6</sup>, converting into carbon dioxide and water vapour. The rate of this breakdown can be influenced by factors like climate change and the presence of other gases (e.g., nitrogen oxides), potentially creating a feedback loop that accelerates warming.
- Methane remains in the atmosphere for approximately 9 years before breaking down, although other removal processes, such as soil absorption, occur at a much slower rate. The rate of break-down can vary by more than a year depending on the atmospheric concentrations which affect the prevalence of the hydroxyl radical, which helps break methane down into CO<sub>2</sub>, water vapour, and other trace gases.

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<sup>6</sup> Hydroxyl radicals (OH) are reactive molecules in the atmosphere that help break down pollutants and greenhouse gases.

### Appendix Three: Scenario summary and linear reductions by 2050

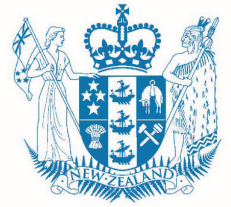
SSP-RCP Scenario	Scenario summary	Linear reductions by 2050
SP1-1.9	"Sustainability" Low challenges to mitigation and adaptation	24%
SSP1-2.6		14%
SSP2-4.5	"Middle of the road" Medium challenges to mitigation and adaptation	15%
SSP4-3.4	"Inequality" Low challenge to mitigation, High challenges to adaptation	24%
SSP4-6.0		11%
SSP5-3.4	"Fossil-fuelled development" High challenge to mitigation, low challenge to adaptation	0%
SSP3-7.0	"Regional rivalry" High challenges to mitigation and adaptation	0%
SSP5-8.5	"Fossil-fuelled development" High challenge to mitigation, low challenge to adaptation	0%

**Appendix Four: Draft letter of appreciation for Panel members**

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# Hon Todd McClay

Minister of Agriculture  
Minister of Forestry  
Minister for Hunting and Fishing  
Minister for Trade  
Associate Minister of Foreign Affairs



# Hon Simon Watts

Minister of Climate Change  
Minister of Revenue



MIN24-0978

Nicola Shadbolt  
Chair, Methane Science and Target Review Panel

## Final Report on the Methane Science and Target Review

Dear Nicola,

We write to acknowledge and commend the significant work you and the Methane Science and Target Review Panel (the Panel) have done to conduct an independent review of the methane science and 2050 biogenic methane target for consistency with no additional warming.

This is an important piece of work that supports the Government's commitment to making sure our targets are fair and sustainable. The Panel's work provides a valuable evidence base to support the Government's 2025 work to clarify the methane component of the 2050 target.

We intend to publish the final report **[on 4 December 2024]**. We look forward to meeting with you to discuss the report ahead of this.

Once again, we thank you for your work. It is an important contribution that will be valuable in advancing our consideration, and public discussion, of the methane component of the 2050 target.

Warm regards,

Hon Todd McClay  
**Minister of Agriculture**

Hon Simon Watts  
**Minister of Climate Change**

**From:** Cheryl Moir <Cheryl.Moir@mfe.govt.nz>  
**Sent:** Monday, 2 December 2024 10:36 am  
**To:** James Coombes [EXTERNAL] (PARLIAMENT)  
**Subject:** FW: **CLASSIFICATION** : Final methane science and targets review

Kia ora Lisa,

Comparison table below between draft and final. Please note there were inaccuracies in the data for draft version, and some percentages were compared against 2017 emissions and some against 2022, which has been rectified in the final. There is a chance that some of the 0% in the version below may still increase to 1% for the final publication but we consider this is a minor change (to be discussed with Panel today).

	Scenario summary	Linear reductions by 2050 (FINAL)	DRAFT VERSION
SP1-1.9	“Sustainability”	24%	24%
SSP1-2.6	Low challenges to mitigation and adaptation	14%	10%
SSP2-4.5	“Middle of the road” Medium challenges to mitigation and adaptation	15%	10%
SSP4-3.4	“Inequality” Low challenge to mitigation, High challenges to adaptation	24%	20%
SSP4-6.0		11%	10%
SSP5-3.4	“Fossil-fuelled development” High challenge to mitigation, low challenge to adaptation	0%	0%
SSP3-7.0	“Regional rivalry” High challenges to mitigation and adaptation	0%	0%
SSP5-8.5	“Fossil-fuelled development” High challenge to mitigation, low challenge to adaptation	0%	10%

**Jessica Bensemman (she/her)**

*Principal Analyst | Kaitātari Mātāmua*

*Market Development – Climate Mitigation*

Ministry for the Environment | Manatū Mō Te Taiao

9(2)(a) | [jessica.bensemman@mfe.govt.nz](mailto:jessica.bensemman@mfe.govt.nz) | [environment.govt.nz](http://environment.govt.nz)

Please note I work part-time (25 hours per week) split over Monday to Friday. This means there may be some delay in my response to your email.



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---

**From:** Lisa Daniell [DPMC] <[Lisa.Daniell@dpmc.govt.nz](mailto:Lisa.Daniell@dpmc.govt.nz)>  
**Sent:** Monday, 2 December 2024 9:01 am  
**To:** Jessica Bensemenn <[Jessica.Bensemenn@mfe.govt.nz](mailto:Jessica.Bensemenn@mfe.govt.nz)>  
**Cc:** Sam Buckle <[Sam.Buckle@mfe.govt.nz](mailto:Sam.Buckle@mfe.govt.nz)>; Hemi Smiler <[Hemi.Smiler@mfe.govt.nz](mailto:Hemi.Smiler@mfe.govt.nz)>; Cheryl Moir <[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>  
**Subject:** RE: CLASSIFICATION : Final methane science and targets review

CLASSIFICATION

Hi Jess,

Please can you advise, is the key change between draft and final, simply that the 10% is 14% (highlighted below)?

Thanks,  
Lisa

++++++

*[The Panel provided a draft report to Ministers on 8 November 2024 and will provide their final report on 29 November 2024.]*

*The key findings in the ~~draft~~ report (subject to final peer review) are that:*

- *if the rest of the world were to rapidly increase its climate policies to meet the 1.5 degrees warming Paris goal, then reducing New Zealand's biogenic methane emissions by 24 percent by 2050 would satisfy the goal of achieving no additional warming on 2017 levels by 2050;*
- *based on current global levels of effort and commitment, which is not aligned to the Paris goal, a reduction of 10-14 percent by 2050 on 2017 levels would be required to satisfy this goal.*

**Lisa Daniell**

Policy Advisory Group  
Department of the Prime Minister and Cabinet

P +64 (4) 495 6699  
M 9(2)(a)  
E [lisa.daniell@dpmc.govt.nz](mailto:lisa.daniell@dpmc.govt.nz)



**From:** Jessica Bensemman <[Jessica.Bensemman@mfe.govt.nz](mailto:Jessica.Bensemman@mfe.govt.nz)>  
**Sent:** Friday, November 29, 2024 8:05 PM  
**To:** Lisa Daniell [DPMC] <[Lisa.Daniell@dpmc.govt.nz](mailto:Lisa.Daniell@dpmc.govt.nz)>  
**Cc:** Sam Buckle <[Sam.Buckle@mfe.govt.nz](mailto:Sam.Buckle@mfe.govt.nz)>; Hemi Smiler <[hemi.smiler@mfe.govt.nz](mailto:hemi.smiler@mfe.govt.nz)>; Cheryl Moir <[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>  
**Subject:** CLASSIFICATION : Final methane science and targets review

You don't often get email from [jessica.bensemman@mfe.govt.nz](mailto:jessica.bensemman@mfe.govt.nz). [Learn why this is important](#)

Kia ora Lisa,

Please find attached a final version of the Methane science and targets review and our accompanying brief that has just gone to Ministers offices.

Ngā mihi,

**Jessica Bensemman (she/her)**  
*Principal Analyst | Kaitātari Mātāmua  
Market Development – Climate Mitigation*

Ministry for the Environment | Manatū Mō Te Taiao  
9(2)(a) | [jessica.bensemman@mfe.govt.nz](mailto:jessica.bensemman@mfe.govt.nz) | [environment.govt.nz](http://environment.govt.nz)

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*Manatū Mō Te Taiao*



**From:** Jessica Bensemenn <Jessica.Bensemenn@mfe.govt.nz>  
**Sent:** Monday, 2 December 2024 9:54 am  
**To:** James Coombes [EXTERNAL] (PARLIAMENT); Cheryl Moir  
**Cc:** Jamie Molea [EXTERNAL] (Parliament)  
**Subject:** RE: 1news: methane-target-tweak-requires-steeper-action-elsewhere-commission

Thanks James, the extended interview is available on Youtube which includes a bit more on the Panel work. [Climate Change Commission: Is NZ doing enough? | Q+A 2024 - YouTube](#) Note: the url for this link is <https://www.youtube.com/watch?v=7fzseEIYrE>

I had a listen and nothing major discussed.

- Says Panel is asked to answer different question that CCC is tasked with.
- All agree different gases have different impact.
- World won't change how methane is calibrated, but countries can measure how they like domestically
- On NAW - if change target, it will require considerations of what else is needed to keep 2050 commitment - i.e. going negative net zero through other means.

**Jessica Bensemenn (she/her)**

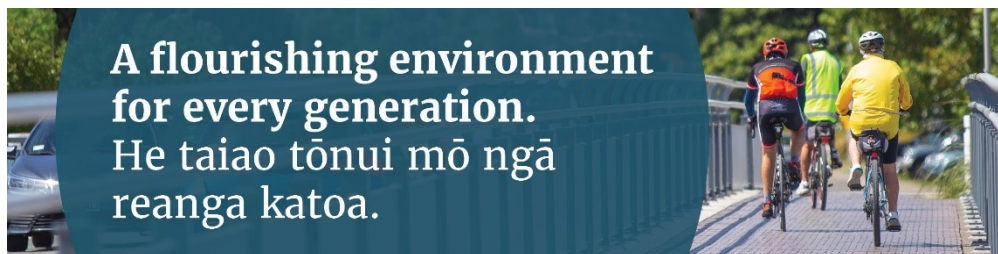
*Principal Analyst | Kaitātari Mātāmua  
Market Development – Climate Mitigation*

Ministry for the Environment | Manatū Mō Te Taiao  
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**From:** James Coombes <James.Coombes@parliament.govt.nz>  
**Sent:** Monday, 2 December 2024 8:16 am  
**To:** Cheryl Moir <Cheryl.Moir@mfe.govt.nz>; Jessica Bensemenn <Jessica.Bensemenn@mfe.govt.nz>  
**Cc:** Jamie Molea [EXTERNAL] (Parliament) <Jamie.Molea@parliament.govt.nz>  
**Subject:** 1news: methane-target-tweak-requires-steeper-action-elsewhere-commission

[Methane target tweak requires steeper action elsewhere - commission](https://www.1news.co.nz/2024/12/01/methane-target-tweak-requires-steeper-action-elsewhere-commission/)

Note: the url for this link is: <https://www.1news.co.nz/2024/12/01/methane-target-tweak-requires-steeper-action-elsewhere-commission/>

Ngā mihi,

**James Coombes (he/him) | Private Secretary – Climate Change | Office of Hon Simon Watts MP**

Minister of Climate Change

Waea Pūkoro : 9(2)(a)

---

**From:** Methane Panel Secretariat <MethanePanelSecretariat@mfe.govt.nz>  
**Sent:** Tuesday, 3 December 2024 7:24 pm  
**To:** N.M Shadbolt [EXTERNAL] (MASSEY); Laura Revell; Sara Mikaloff-Fletcher; Bill Collins; David Frame  
**Cc:** Cheryl Moir; Beth Hampton; Jessica Bensemenn; Gemma Freeman  
**Subject:** CLASSIFICATION Delivery of methane science and target panel review

Kia ora kou tou,

On behalf of the methane panel secretariat we would like to pass on our appreciation for your work in completing the methane science and target review.

Confidentially for your information the report will be released by Ministers in the afternoon of 4 December. **Please do not share this release date with anyone outside of this email list as it has potential to be market sensitive given the ETS auction is happening tomorrow morning.**

The announcement will occur through a press release on the Beehives website. The report will be made available on the MfE website here <https://environment.govt.nz/publications/methane-science-and-target-review>.

It has been agreed with Ministers that they will lead on all media enquiries regarding the report. If you are approached by media please pass people on to our media team [media@mfe.govt.nz](mailto:media@mfe.govt.nz) who will manage a response.

Talking points if approached

- The Panel has completed their review as required from the Terms of Reference.
- The report is now with Ministers and they will be considering the findings of report.
- Ministers will respond to any questions on the findings of the report. Please direct your enquiry to [media@mfe.govt.nz](mailto:media@mfe.govt.nz)

Thank you again, and I'm happy to answer any questions you may have in the meantime.

Ngā mihi,

**Jessica Bensemenn (she/her)**

*Principal Analyst | Kaitātari Mātāmua*

*Market Development – Climate Mitigation*

Ministry for the Environment | Manatū Mō Te Taiao

9(2)(a) | [jessica.bensemenn@mfe.govt.nz](mailto:jessica.bensemenn@mfe.govt.nz) | [environment.govt.nz](https://environment.govt.nz)

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*Ministry for the*  
**Environment**  
*Manatū Mō Te Taiao*



Minist

**From:** Jessica Bensemenn  
**Sent:** Tuesday, 3 December 2024 7:31 pm  
**To:** Nicola Shadbolt  
**Cc:** David Frame  
**Subject:** RE: Final changes

9(2)(g)(i)

Regards,

**Jessica Bensemenn** [\(she/her\)](#)  
*Principal Analyst | Kaitātari Mātāmua  
Market Development – Climate Mitigation*

Ministry for the Environment | Manatū Mō Te Taiao  
9(2)(a) | [jessica.bensemenn@mfe.govt.nz](mailto:jessica.bensemenn@mfe.govt.nz) | [environment.govt.nz](http://environment.govt.nz)

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*Ministry for the*  
**Environment**  
*Manatū Mō Te Taiao*



---

**From:** Nicola Shadbolt <N.M.Shadbolt@massey.ac.nz>  
**Sent:** Tuesday, 3 December 2024 5:44 pm  
**To:** Jessica Bensemenn <Jessica.Bensemenn@mfe.govt.nz>  
**Cc:** David Frame <david.frame@canterbury.ac.nz>  
**Subject:** RE: Final changes

**MFE CYBER SECURITY WARNING**

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9(2)(g)(i)

Regards  
Nicola

---

**From:** Jessica Bensemann <[Jessica.Bensemann@mfe.govt.nz](mailto:Jessica.Bensemann@mfe.govt.nz)>  
**Sent:** Tuesday, 3 December 2024 5:32 pm  
**To:** David Frame <[david.frame@canterbury.ac.nz](mailto:david.frame@canterbury.ac.nz)>; Nicola Shadbolt <[N.M.Shadbolt@massey.ac.nz](mailto:N.M.Shadbolt@massey.ac.nz)>  
**Cc:** Cheryl Moir <[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>; Tom Womack <[Tom.Womack@mfe.govt.nz](mailto:Tom.Womack@mfe.govt.nz)>  
**Subject:** Re: Final changes

9(2)(g)(i)

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**From:** Nicola Shadbolt <[N.M.Shadbolt@massey.ac.nz](mailto:N.M.Shadbolt@massey.ac.nz)>  
**Sent:** Tuesday, December 3, 2024 5:29:26 PM  
**To:** Jessica Bensemann <[Jessica.Bensemann@mfe.govt.nz](mailto:Jessica.Bensemann@mfe.govt.nz)>; David Frame <[david.frame@canterbury.ac.nz](mailto:david.frame@canterbury.ac.nz)>  
**Cc:** Cheryl Moir <[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>; Tom Womack <[Tom.Womack@mfe.govt.nz](mailto:Tom.Womack@mfe.govt.nz)>  
**Subject:** RE: Final changes

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9(2)(g)(i)

Regards  
Nicola

---

**From:** Jessica Bensemann <[Jessica.Bensemann@mfe.govt.nz](mailto:Jessica.Bensemann@mfe.govt.nz)>  
**Sent:** Tuesday, 3 December 2024 12:32 pm  
**To:** Nicola Shadbolt <[N.M.Shadbolt@massey.ac.nz](mailto:N.M.Shadbolt@massey.ac.nz)>; David Frame <[david.frame@canterbury.ac.nz](mailto:david.frame@canterbury.ac.nz)>  
**Cc:** Cheryl Moir <[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>; Tom Womack <[Tom.Womack@mfe.govt.nz](mailto:Tom.Womack@mfe.govt.nz)>  
**Subject:** Re: Final changes

9(2)(g)(i)

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**From:** David Frame <[david.frame@canterbury.ac.nz](mailto:david.frame@canterbury.ac.nz)>  
**Sent:** Tuesday, December 3, 2024 12:20:53 PM  
**To:** Jessica Bensemenn <[Jessica.Bensemenn@mfe.govt.nz](mailto:Jessica.Bensemenn@mfe.govt.nz)>; N.M Shadbolt [EXTERNAL] (MASSEY) <[n.m.shadbolt@massey.ac.nz](mailto:n.m.shadbolt@massey.ac.nz)>  
**Cc:** Cheryl Moir <[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>; Tom Womack <[Tom.Womack@mfe.govt.nz](mailto:Tom.Womack@mfe.govt.nz)>  
**Subject:** Re: Final changes

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Hi all,

9(2)(g)(i) [Redacted]

[Redacted]

[Redacted]

Best  
Dave

Classification: CLASSIFICATION

---

**From:** Jessica Bensemenn <[Jessica.Bensemenn@mfe.govt.nz](mailto:Jessica.Bensemenn@mfe.govt.nz)>  
**Sent:** Tuesday, 3 December 2024 11:41 am  
**To:** N.M Shadbolt [EXTERNAL] (MASSEY) <[n.m.shadbolt@massey.ac.nz](mailto:n.m.shadbolt@massey.ac.nz)>; David Frame <[david.frame@canterbury.ac.nz](mailto:david.frame@canterbury.ac.nz)>  
**Cc:** Cheryl Moir <[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>; Tom Womack <[Tom.Womack@mfe.govt.nz](mailto:Tom.Womack@mfe.govt.nz)>  
**Subject:** RE: Final changes      Attachment to this email withheld under section 9(2)(g)(i) of the Act

9(2)(g)(i) [Redacted]

[Redacted]

[Redacted]

[Redacted]

**Jessica Bensemman** ([she/her](#))

Principal Analyst | Kaitātari Mātāmua

Market Development – Climate Mitigation

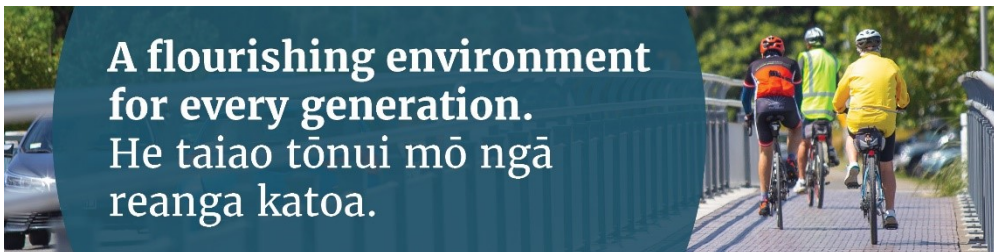
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**From:** Nicola Shadbolt <[N.M.Shadbolt@massey.ac.nz](mailto:N.M.Shadbolt@massey.ac.nz)>

**Sent:** Tuesday, 3 December 2024 11:00 am

**To:** Jessica Bensemman <[Jessica.Bensemman@mfe.govt.nz](mailto:Jessica.Bensemman@mfe.govt.nz)>; David Frame <[david.frame@canterbury.ac.nz](mailto:david.frame@canterbury.ac.nz)>

**Cc:** Cheryl Moir <[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>; Tom Womack <[Tom.Womack@mfe.govt.nz](mailto:Tom.Womack@mfe.govt.nz)>

**Subject:** RE: Final changes

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Jess

Can I pick this up with you after the meeting please

Nicola

**From:** Jessica Bensemman <[Jessica.Bensemman@mfe.govt.nz](mailto:Jessica.Bensemman@mfe.govt.nz)>

**Sent:** Tuesday, 3 December 2024 10:58 am

**To:** David Frame <[david.frame@canterbury.ac.nz](mailto:david.frame@canterbury.ac.nz)>; Nicola Shadbolt <[N.M.Shadbolt@massey.ac.nz](mailto:N.M.Shadbolt@massey.ac.nz)>

**Cc:** Cheryl Moir <[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>; Tom Womack <[Tom.Womack@mfe.govt.nz](mailto:Tom.Womack@mfe.govt.nz)>

**Subject:** RE: Final changes

9(2)(g)(i)

**Jessica Bensemman** ([she/her](#))

*Principal Analyst | Kaitātari Mātāmua  
Market Development – Climate Mitigation*

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**From:** David Frame <[david.frame@canterbury.ac.nz](mailto:david.frame@canterbury.ac.nz)>

**Sent:** Tuesday, 3 December 2024 10:31 am

**To:** N.M Shadbolt [EXTERNAL] (MASSEY) <[n.m.shadbolt@massey.ac.nz](mailto:n.m.shadbolt@massey.ac.nz)>; Jessica Bensemman <[Jessica.Bensemman@mfe.govt.nz](mailto:Jessica.Bensemman@mfe.govt.nz)>

**Cc:** Cheryl Moir <[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>; Tom Womack <[Tom.Womack@mfe.govt.nz](mailto:Tom.Womack@mfe.govt.nz)>

**Subject:** Re: Final changes

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Hi Nicola, all,

9(2)(g)(i)

9(2)(g)(i)

Best

Dave

Classification **CLASSIFICATION**

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**From:** Nicola Shadbolt <[N.M.Shadbolt@massey.ac.nz](mailto:N.M.Shadbolt@massey.ac.nz)>

**Sent:** Monday, 2 December 2024 6:12 pm

**To:** Jessica Bensemann <[Jessica.Bensemann@mfe.govt.nz](mailto:Jessica.Bensemann@mfe.govt.nz)>

**Cc:** Cheryl Moir <[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>; Tom Womack <[Tom.Womack@mfe.govt.nz](mailto:Tom.Womack@mfe.govt.nz)>; David Frame <[david.frame@canterbury.ac.nz](mailto:david.frame@canterbury.ac.nz)>

**Subject:** RE: Final changes

9(2)(g)(i)

Regards

Nicola

---

**From:** Nicola Shadbolt

**Sent:** Monday, 2 December 2024 5:45 pm

**To:** Jessica Bensemann <[Jessica.Bensemann@mfe.govt.nz](mailto:Jessica.Bensemann@mfe.govt.nz)>

**Cc:** Cheryl Moir <[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>; Tom Womack <[Tom.Womack@mfe.govt.nz](mailto:Tom.Womack@mfe.govt.nz)>

**Subject:** RE: Final changes

Jess

9(2)(g)(i)

Nicola

---

**From:** Jessica Bensemann <[Jessica.Bensemann@mfe.govt.nz](mailto:Jessica.Bensemann@mfe.govt.nz)>

**Sent:** Monday, 2 December 2024 4:28 pm

**To:** Nicola Shadbolt <[N.M.Shadbolt@massey.ac.nz](mailto:N.M.Shadbolt@massey.ac.nz)>

**Cc:** Cheryl Moir <[Cheryl.Moir@mfe.govt.nz](mailto:Cheryl.Moir@mfe.govt.nz)>; Tom Womack <[Tom.Womack@mfe.govt.nz](mailto:Tom.Womack@mfe.govt.nz)>

**Subject:** Final changes

Hi Nicola,

Attachment to this email withheld under section 9(2)(g)(i) of the Act

9(2)(g)(i)

9(2)(g)(i)

[Redacted content]

Cheers,  
Jessica

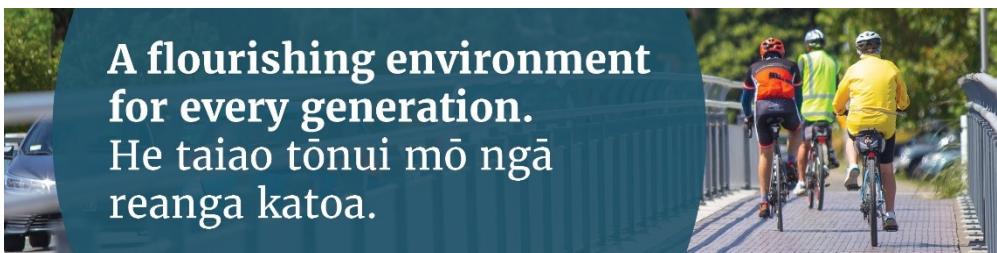
**Jessica Bensemman** [\(she/her\)](#)  
*Principal Analyst | Kaitātari Mātāmua  
Market Development – Climate Mitigation*

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**From:** Cheryl Moir <Cheryl.Moir@mfe.govt.nz>  
**Sent:** Tuesday, 3 December 2024 11:44 am  
**To:** Jessica Bensemam; Stephen Goodman; Becky Prebble; Meredith Davis; Daniel Rimmer; Ben Mayhew; James Coombes [EXTERNAL] (PARLIAMENT)  
**Cc:** Sam Buckle; Hemi Smiler; Mark Vink; Stephen Goodman; Meredith Davis; Katie Mattera; Daniel Rimmer; Gemma Freeman; Ministerials; Jamie Molea [EXTERNAL] (Parliament)  
**Subject:** Re: **CLASSIFICATION** - Methane Science and Target Review report

Kia Ora James,

Received and yes we will work to that direction.  
Including Steve as we will be coordinated on the advice with broader 2050 target work.

Thanks,  
Cheryl

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**From:** James Coombes <James.Coombes@parliament.govt.nz>  
**Sent:** Tuesday, December 3, 2024 11:21:11 AM  
**To:** Jessica Bensemam <Jessica.Bensemam@mfe.govt.nz>; Cheryl Moir <Cheryl.Moir@mfe.govt.nz>  
**Cc:** Sam Buckle <Sam.Buckle@mfe.govt.nz>; Hemi Smiler <Hemi.Smiler@mfe.govt.nz>; Mark Vink <Mark.Vink@mfe.govt.nz>; Stephen Goodman <Stephen.Goodman@mfe.govt.nz>; Meredith Davis <Meredith.Davis@mfe.govt.nz>; Katie Mattera <Katie.Mattera@mfe.govt.nz>; Daniel Rimmer <Daniel.Rimmer@mfe.govt.nz>; Gemma Freeman <Gemma.Freeman@mfe.govt.nz>; Ministerials <ministerials@mfe.govt.nz>; Jamie Molea [EXTERNAL] (Parliament) <Jamie.Molea@parliament.govt.nz>  
**Subject:** RE: **CLASSIFICATION** - Methane Science and Target Review report

Kia ora Cheryl and Jess,

Thanks for attending the call just now with Nicola.

9(2)(f)(iv)

Can you please confirm you'll reach out to 9(2)(f)(iv)

Any issues please let me know or happy to discuss further.

Ngā mihi,

**James Coombes (he/him) | Private Secretary – Climate Change | Office of Hon Simon Watts MP**  
Minister of Climate Change  
Waea Pūkoro : 9(2)(a)

---

**From:** Jessica Bensemann <Jessica.Bensemann@mfe.govt.nz>  
**Sent:** Friday, 29 November 2024 7:58 PM  
**To:** James Coombes <James.Coombes@parliament.govt.nz>; Jamie Molea <Jamie.Molea@parliament.govt.nz>  
**Cc:** Sam Buckle <Sam.Buckle@mfe.govt.nz>; Hemi Smiler <Hemi.Smiler@mfe.govt.nz>; Cheryl Moir <Cheryl.Moir@mfe.govt.nz>; Mark Vink <Mark.Vink@mfe.govt.nz>; Stephen Goodman <Stephen.Goodman@mfe.govt.nz>; Meredith Davis <Meredith.Davis@mfe.govt.nz>; Katie Mattera <Katie.Mattera@mfe.govt.nz>; Daniel Rimmer <Daniel.Rimmer@mfe.govt.nz>; Gemma Freeman <Gemma.Freeman@mfe.govt.nz>; Ministerials <ministerials@mfe.govt.nz>  
**Subject:** CLASSIFICATION - Methane Science and Target Review report

Good evening James and Jamie,

Please find attached the final of the Methane Science and Target Review report, and associated brief. We have also included a draft thank you letter to the panel (appendix four of the brief) – our apologies that the letterhead formatting has gone a bit odd.

Please note that the attached version of the report may be very slightly edited ahead of publication – but this does not affect the numbers therein.

Warm regards,

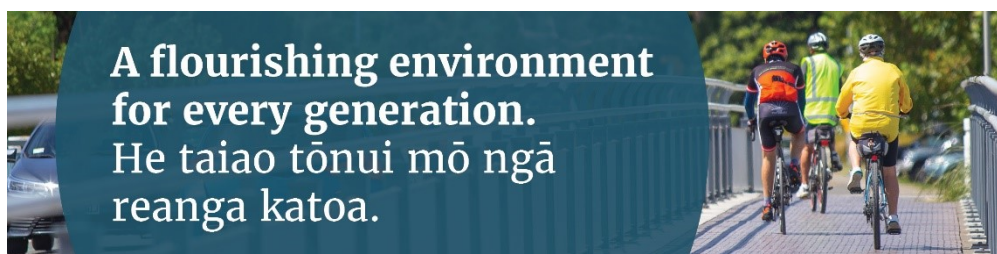
**Jessica Bensemann (she/her)**  
*Principal Analyst | Kaitātari Mātāmua  
Market Development – Climate Mitigation*

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**From:** Jessica Bensemann <Jessica.Bensemann@mfe.govt.nz>  
**Sent:** Thursday, 5 December 2024 1:54 pm  
**To:** N.M Shadbolt [EXTERNAL] (MASSEY)  
**Cc:** Cheryl Moir  
**Subject:** RE: Methane review report

Hi Nicola,

I went back to the brief that was provided to Ministers on your final report to see if we provided any language on that part of the brief. It seems that this was a paraphrase of some text in your report.

Last para of exec summary and in results sections “Unless global emissions of GHGs reduce rapidly in the next couple of decades, cuts on 2017 biogenic methane emission levels of around 14-15% by 2050 are sufficient to keep warming from NZ’s biogenic methane to levels at or below 2017 levels.”

Are you available for a catch up tomorrow morning? We could tidy up any last matters for now?

Regards  
Jessica

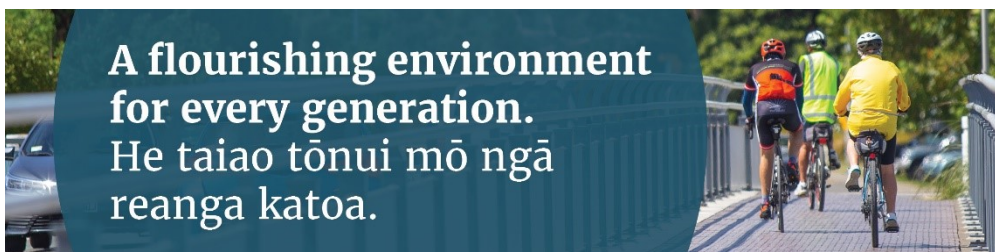
**Jessica Bensemann** ([she/her](#))  
*Principal Analyst | Kaitātari Mātāmua  
Market Development – Climate Mitigation*

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**From:** Nicola Shadbolt <N.M.Shadbolt@massey.ac.nz>  
**Sent:** Thursday, 5 December 2024 12:51 pm  
**To:** Jessica Bensemann <Jessica.Bensemann@mfe.govt.nz>

Cc: Cheryl Moir <Cheryl.Moir@mfe.govt.nz>

Subject: Methane review report

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Hello Jess

Good to see the report released but rather disappointed to see how we have been misquoted already, I did not expect that. We do not say 'In scenarios where global emissions of greenhouse gasses do not reduce rapidly in the next couple of decades...'

The 14-15% targets were very much reconciled against current NDCs and the International Energy Association's emissions scenarios, which are still focused on delivering to holding temperatures to less than the 2 degrees.

Did you get a chance to see what they put in that release before it went?

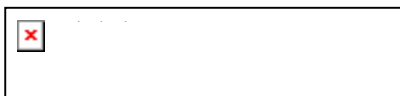
Based on this reinterpretation I am concerned that further advice to Ministers could be similar. Please can you pass on our willingness to meet in person with whoever writes these and provides advice to help them better understand what is in the report.

Regards

Nicola

Nicola M Shadbolt ONZM

*Professor of Farm & Agribusiness Management*



School of Agriculture & Environment, Massey University, Private Bag 11 222, Palmerston North 4442, New Zealand

T: +64 6 3569099 extn 84793 M: 9(2)(a)

E: [N.M.Shadbolt@massey.ac.nz](mailto:N.M.Shadbolt@massey.ac.nz)

**From:** Jessica Bensemenn  
**Sent:** Thursday, 9 January 2025 8:15 am  
**To:** James Coombes; Cheryl Moir  
**Cc:** Jamie Molea [EXTERNAL] (Parliament)  
**Subject:** RE: Letter from the MoA and MCC to the Chair of the Methane Review Panel - 18th Dec 2024

Kia ora James, happy new year and hope you had a lovely break.

I have confirmed with MPI that our response to this offer would be as below.

9(2)(f)(iv)

Ngā mihi,  
Jessica

**Jessica Bensemenn** (she/her)  
*Principal Analyst | Kaitātari Mātāmua  
Market Development – Climate Mitigation*

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**From:** James Coombes <James.Coombes@parliament.govt.nz>  
**Sent:** Thursday, 19 December 2024 2:18 pm  
**To:** Cheryl Moir <Cheryl.Moir@mfe.govt.nz>; Jessica Bensemenn <Jessica.Bensemenn@mfe.govt.nz>

Cc: Jamie Molea [EXTERNAL] (Parliament) <Jamie.Molea@parliament.govt.nz>

Subject: FW: Letter from the MoA and MCC to the Chair of the Methane Review Panel - 18th Dec 2024

Kia ora both,

See the **below** correspondence from Nicola back to me. Can you discuss with MPI how you wish to come back to Ministers about her offer to meet and discuss their work?

Ngā mihi,

**James Coombes (he/him) | Private Secretary – Climate Change | Office of Hon Simon Watts MP**

Minister of Climate Change

Waea Pūkoro : 9(2)(a)

---

**From:** James Coombes

**Sent:** Thursday, 19 December 2024 2:16 PM

**To:** Nicola Shadbolt <[N.M.Shadbolt@massey.ac.nz](mailto:N.M.Shadbolt@massey.ac.nz)>

**Subject:** RE: Letter from the MoA and MCC to the Chair of the Methane Review Panel - 18th Dec 2024

Kia ora Nicola,

Thanks for your email. I'll relay your offer to the Ministers and let you know their response once the office re-opens.

Have a lovely break and speak in the new year.

Ngā mihi,

**James Coombes (he/him) | Private Secretary – Climate Change | Office of Hon Simon Watts MP**

Minister of Climate Change

Waea Pūkoro : 9(2)(a)

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**From:** Nicola Shadbolt <[N.M.Shadbolt@massey.ac.nz](mailto:N.M.Shadbolt@massey.ac.nz)>

**Sent:** Wednesday, 18 December 2024 2:44 PM

**To:** James Coombes <[James.Coombes@parliament.govt.nz](mailto:James.Coombes@parliament.govt.nz)>

**Subject:** RE: Letter from the MoA and MCC to the Chair of the Methane Review Panel - 18th Dec 2024

Thank you for the letter, James, I will send it on to the other members of the panel. Please can you mention to the respective Ministers that I am available to spend time with them in the New Year to answer further questions they may have or to provide more explanation on how and why the evidence lands where it does. As I can confirm, from time spent with the panel's scientist these last few months, this is a very complex area so one that benefits from discussion and reflection.

Kind regards

Nicola

---

**From:** James Coombes <[James.Coombes@parliament.govt.nz](mailto:James.Coombes@parliament.govt.nz)>

**Sent:** Wednesday, 18 December 2024 1:49 pm

**To:** Nicola Shadbolt <[N.M.Shadbolt@massey.ac.nz](mailto:N.M.Shadbolt@massey.ac.nz)>

**Subject:** Letter from the MoA and MCC to the Chair of the Methane Review Panel - 18th Dec 2024

Kia ora Nicola,

Please find **attached** a letter dated 18<sup>th</sup> December 2024 from the Minister of Agriculture and Minister of Climate Change to you as the Chair of the Methane Science and Target Review Panel.

Ngā mihi,

**James Coombes (he/him) | Private Secretary – Climate Change | Office of Hon Simon Watts MP**

Minister of Climate Change

*Waea Pūkoro* : 9(2)(a)

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