

19-D-0796

s 9(2)(a)

- 6 JUN 2019

Deal s 9(2)(a)

Thank you for your email of 9 May requesting the following under the Official Information Act 1982 (the Act):

Analysis and advice by the Ministry for the Environment on the IPCC Report relating to methane reduction levels and targets in the period October 2018-May 2019.

The Ministry for the Environment has identified 18 documents in scope of your request, as listed in the attached table. Some information within these documents has been withheld under the following sections of the Act:

- 6(a) to avoid prejudicing the international relations of the Government of New Zealand
- 9(2)(a) to protect the privacy of natural persons
- 9(2)(f)(iv) to protect the confidentiality of advice tendered by Ministers of the Crown and officials
- 9(2)(g)(i) to maintain the effective conduct of public affairs through free and frank expression of opinions by or between or to Ministers of the Crown of members of an organisation or officers and employees of any department or organisation in the course of their duty
- 18(d) the information requested is publicly available

In terms of section 9(1) of the Act, I am satisfied that, in the circumstances, the withholding of this information is not outweighed by other considerations that render it desirable to make the information available in the public interest.

Some out of scope information has also been removed from the documents being released to you.

We have also withheld all or part of five documents (Documents 3, 5, 9, 10 and 15) that have been released as part of the proactive release of documents relating to the Climate Change Response (Zero Carbon) Amendment Bill (ZCB). We have provided the titles of those documents in the table below. You can find them by searching at <https://www.mfe.govt.nz/briefings-search>. Document 17 has also been withheld, as it is available on the Ministry website - <https://mfe.govt.nz/climate-change/zero-carbon-amendment-bill>. Drafts of Documents 15 and 17 are not included in our release. You can find the final versions by following the above steps.

You have the right to seek an investigation and review by the Office of the Ombudsman of my decision to withhold information relating to this request, in accordance with section 28(3) of the Act. The relevant details can be found on their website at: www.ombudsman.parliament.nz.

Please note that due to the public interest in our work the Ministry for the Environment publishes responses to requests for official information on our website on our [OIA responses page](#) shortly after the response has been sent.

If you have any queries about this, please feel free to contact our Executive Relations team.

Yours sincerely



Janine Smith
Director, Climate Change

Released under the provision of
the Official Information Act 1982

List of documents

Document no.	Document date	Content	Decisions	OIA sections applied
1	4 October 2018	Weekly Update item: IPCC Special Report on Global Warming of 1.5°C	Release in full	
2	8 October 2018	Briefing: Intergovernmental Panel on Climate Change Special Report on Global Warming of 1.5°C	Release in part	S9(2)(f)(iv) S9(2)(g)(i) S9(2)(a)
3	18 October 2018	Update on Cabinet paper seeking final policy decisions on the Zero Carbon Bill	Withhold	S18(d)
4	8 November 2018	Briefing note: Revised Draft Zero Emissions Bill Cabinet Paper	Release in full	
5	21 November 2018	Climate Change Chief Executives Board – Advice on a new 2050 emissions reduction target	Withhold	S18(d)
6	21 November 2018	Advice to office: Responses to queries on Climate Change Chief Executives Board – Advice on a new 2050 emissions reduction target	Release in part	S9(2)(f)(iv)
7	26 November 2018	Briefing: COP24 MASTER BRIEF OFFICIALS	Release in part	S6(a) S9(2)(g)(i) S9(2)(j)

8	4 December 2018	Information: Proposed new 2050 emissions reduction target – request for additional information	Release in full	
9	28 January 2019	Appendix to Cabinet Paper: Summary of science information to give context for domestic emission reduction goals	withhold	S18(d)
10	28 January 2019	Appendix to Cabinet Paper: Regulatory Impact Statement	Withhold	S18(d)
11	31 January 2019	Advice to office: Material to support ministerial consultation on the Climate Change Bill	Release in full	
12	14 March 2019	Memo: Agriculture and IPCC Special Report	Release in full	
13	26 March 21019	Cover note to Cabinet Paper: Targets	Release in full	
14	28 March 2019	Advice to office: Climate Change Bill: Advice on target formulation and legal accountability	Release in full	
15	4 April 2019	Briefing note and Cabinet Paper: Biogenic methane reductions required under the Zero Carbon Bill	Release in part	S9(2)(a) S18(d)
16	3 May 2019	Advice to office: Zero Carbon Amendment Bill Communications material for public announcements	Release in full	
17	3 May 2019	Cabinet Summary Paper: Zero Carbon Amendment Bill	withhold	S18(d)

Excerpt from Climate Change Weekly Update Report (week beginning 1 October 2018)

1.1. IPCC Special Report on 1.5 degrees scheduled for release on 8 October

As requested by the UNFCCC to support the 2015 Paris Agreement, the IPCC has prepared a Special Report *Global Warming of 1.5 °C*. This report assesses current knowledge on projected climatic changes, their potential impacts and associated risks at 1.5°C global warming; emission pathways and system transitions consistent with 1.5°C global warming; and strengthening the global response in the context of sustainable development and efforts to eradicate poverty. Some of the information is very relevant to the Zero Carbon Bill aims and emissions targets. We have noted this in advice to you, referring to the original research (as the report cannot be cited until it's published). A key statement is likely to be: to achieve the 1.5 degree goal, global CO₂ emissions will need to be net zero around 2050, with rapid reductions in methane also required.

Out of scope

[Redacted]

[Redacted]

[Redacted]

[Redacted]

OFFICIAL



IPCC Special Report on Global Warming of 1.5°C

Date Submitted:	8 October 2018	Tracking #: 2018-B-04995	
Security Level	IN-CONFIDENCE	MfE Priority:	Non-Urgent

	Action sought:	Response by:
To Hon James Shaw, Minister for Climate Change	Noting only	
CC Hon David Parker, Minister for the Environment	Noting only	

Actions for Minister's Office Staff	Forward this report to Hon David Parker, Minister for the Environment Return the signed report to MfE.
Number of Attachments #3	Titles of attachments: 1. Headline Statements from the Special Report on Global Warming of 1.5°C 2. Summary for Policy Makers (embargoed until 2pm, 8 October 2018) 3. Q&A regarding the Special Report on Global Warming of 1.5°C
Note any feedback on the quality of the report	

Ministry for the Environment contacts

Position	Name	Cell phone	1 st contact
Principal Author	Emma Lemire	[REDACTED]	
Responsible Manager	Dylan Muggerridge	[REDACTED]	✓
Director	Janine Smith	021 144 7617	

Withheld under s9(2)(a)


RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

IPCC Special Report on Global Warming of 1.5°C

Context

1. This briefing provides you with information on the Intergovernmental Panel on Climate Change (IPCC) Special Report on Global Warming of 1.5°C (SR1.5), which is being released today (8 October) at 2 pm New Zealand time.

Out of scope



¹ To assess the likelihood of an outcome the IPCC uses the following terms: virtually certain 99–100% probability, very likely 90–100%, likely 66–100%, about as likely as not 33–66%, unlikely 0–33%, very unlikely 0–10%, exceptionally unlikely 0–1%.

Out of scope

- In emissions pathways with no or limited overshoot of 1.5°C, global CO₂ emissions reach net zero at around 2050. Pathways that limit global warming to 1.5°C with no or limited overshoot also involve deep reductions in emissions of methane. Allowing for high overshoot, global methane emissions do not necessarily have to reduce below current levels by 2050

Out of scope

Implications for domestic policy

8. The report is highly relevant to the Zero Carbon Bill, because it addresses the rationale for a global goal of 1.5°C, and describes how this can be achieved.
9. The report shows the global benefits of this ambitious goal, and reinforces the need for New Zealand to adopt domestic targets and policies consistent with this global goal.
10. The report also shows the emissions pathways consistent with that goal, which will help in setting our domestic 2050 target.
11. In particular, the report indicates that global CO₂ emissions should reach net zero around 2050 if the 1.5°C temperature goal is to be achieved. The report also notes that most scenarios indicate deep reductions in global methane emissions to limit warming to 1.5°C, but they do not need to reach net zero.
12. The report also refers to the pace of the transition to low emissions, and the fact that it must be rapid and far-reaching. The next two decades are identified as crucial in limiting warming to 1.5°C as opposed to 2°C.

Four illustrative emissions pathways to 1.5°C

13. Figure 3 in the SPM (Attachment 2 to this briefing) shows four illustrative global emission pathways which are all consistent with limiting warming to 1.5°C. These pathways were selected to show a range of potential mitigation approaches and vary widely in their projected energy and land use, as well as their assumptions about future socioeconomic developments.

Note that, in the final version of the Summary for Policymakers, the range in the third point in 14. was changed to 24-47%.

14. In these scenarios, some key indicators are shown. While these are global, non-prescriptive, and cover a wide range of socioeconomic development assumptions, they're nevertheless interesting in comparison to New Zealand's options for a 2050 emissions target:

- Global net anthropogenic CO₂ emissions reach zero around 2050
- Net Kyoto gas emissions² in 2050 are around 80% below 2010 levels
- Methane emissions from agriculture in 2050 range from 69% below 2010 levels to 2% above (in a high overshoot scenario), with an interquartile range of 23 – 46%.

15. While the extremes of this range may be surprising to many New Zealand readers (familiar with recent reports from the Productivity Commission, Parliamentary Commissioner for the Environment and Prime Minister's Chief Science Advisor), the literature is well known to officials and the central range is consistent with analysis already done by officials.

16. In this information, there are three points of clear relevance to the Zero Carbon Bill and New Zealand's 2050 target:

Withheld under s9(2)(f)(iv)

- [Redacted]
- [Redacted]
- [Redacted]

Out of scope

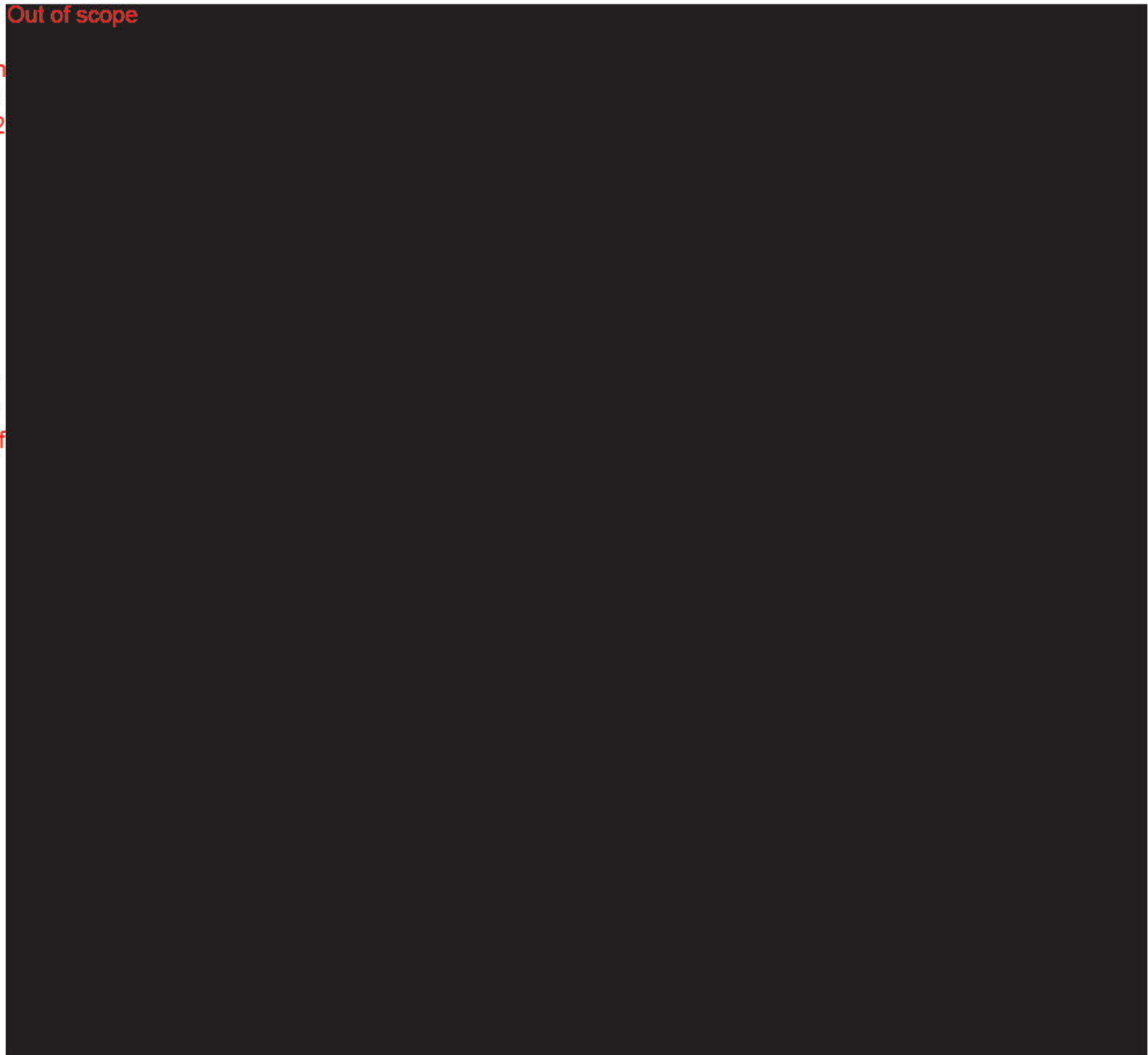


² Kyoto gases are those greenhouse gases covered by the Kyoto Protocol, namely carbon dioxide, methane, nitrous oxide, perfluorocarbons, hydrofluorocarbons, and sulphur hexafluoride.

Out of scope

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Signature

Janine Smith
Director
Climate Change

8/10/18.

Hon James Shaw
Minister for Climate Change

Date



Revised Draft Zero Emissions Bill Cabinet Paper

Date Submitted:	8 November 2018	Tracking #: 2018-B-05099	
Security Level	In confidence	MfE Priority:	Urgent

	Action sought:	Response by:
To Hon James Shaw, Minister for Climate Change	Decisions	12 November

Actions for Minister's Office Staff	Return the signed report to MfE.
Number of appendices and attachments 1	1. DRAFT Zero Emissions Bill Cabinet Paper
Note any feedback on the quality of the report	

Ministry for the Environment contacts

Position	Name	Cell phone	1 st contact
Principal Author	Sarah Deeble		
Responsible Manager	Bridget Fraser	021 180 6739	✓
Director	Janine Smith	021 144 7617	

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Revised Draft Zero Emissions Bill Cabinet Paper

1. This briefing provides you with a revised draft Cabinet paper, *Proposed Zero Emissions Bill* (Appendix 1) and sets out:
 - the key changes that have been made since 1 November;
 - the decisions that you need to make; and
 - the next steps for the Cabinet paper.
2. The appended Cabinet paper includes changes that have been made since the version that you saw on 1 November. These changes reflect direction from you, feedback from other agencies, and edits carried out by MfE officials.

Decision needed on how gases will be grouped in the Domestic Targets

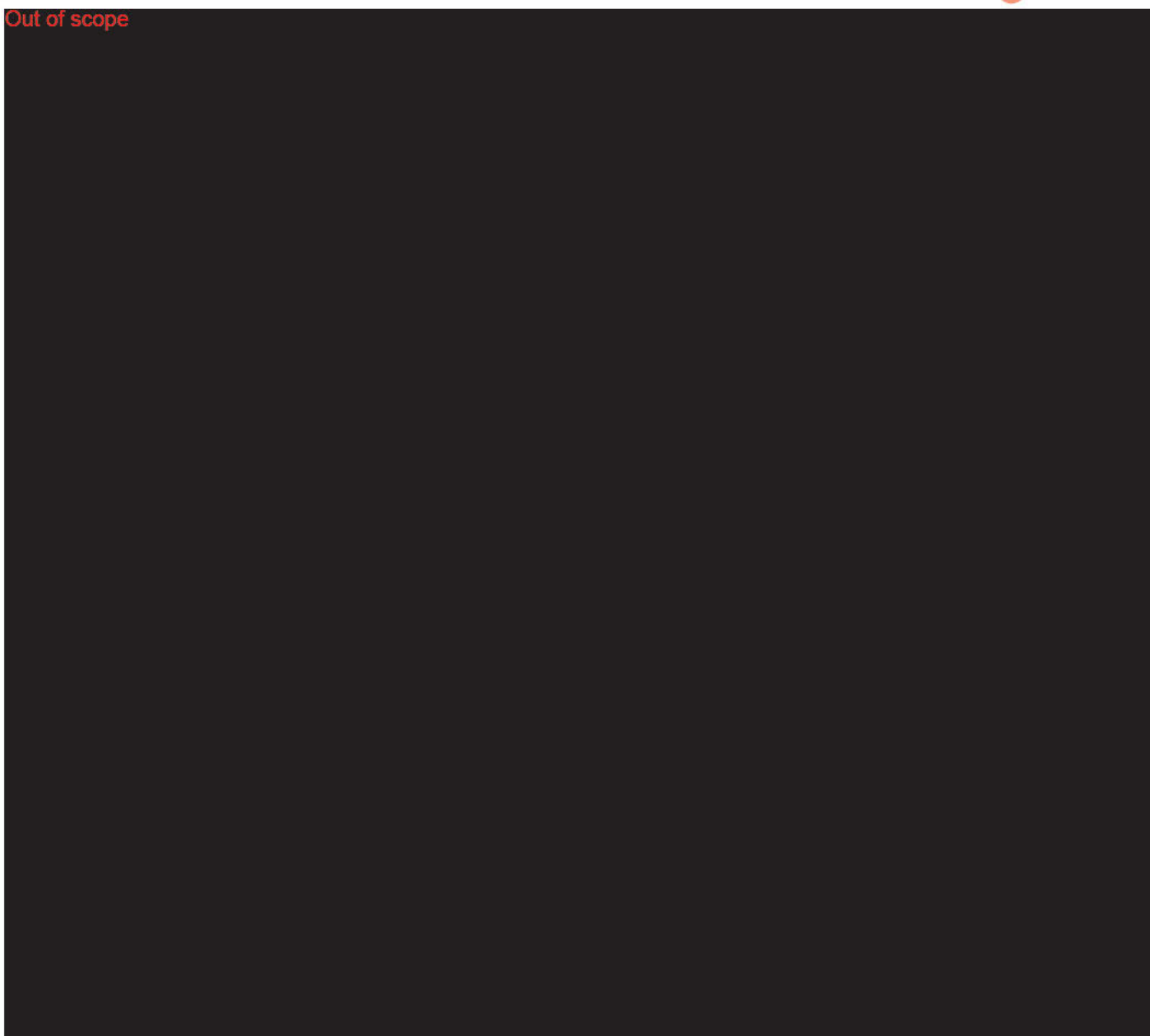
3. We have considered two alternative approaches to the appropriate grouping of gases for each of the gross Domestic Targets. The appended Cabinet paper retains the Ministry's preferred grouping (biogenic methane and all other greenhouse gases (GHGs)). The alternative would be to group short-lived (methane and HFCs) and long-lived gases (all other GHGs).
4. We prefer separating biogenic methane from all other GHGs because emissions of biogenic methane do not directly result in a net increase in long-lived greenhouse gases in the atmosphere. These emissions eventually decompose to CO₂ which simply replaces those removed recently by biological processes. Emissions of fossil methane and HFCs however result in a net addition of CO₂ to the atmosphere and can reasonably be grouped together with other long-lived GHGs.
5. The alternative (short-lived and long-lived) is also a viable approach and has added benefits due to how simply it can be communicated. If you prefer this approach, we can make the required changes to the draft Cabinet paper within a short timeframe. The difference in economic impacts at the macro level is not likely to be significant because biogenic methane makes up about 93% of New Zealand's emissions of short-lived GHGs. However, the grouping of different gases and the rationale that underpins this grouping is likely to have implications for the treatment of various emitting sectors.

Preliminary advice on the level of the Domestic Targets

6. The appended Cabinet paper includes a placeholder of [x%] for the biogenic methane gross Domestic Target and [y%] for the gross Domestic Target for all other GHGs. As requested, the paper has also been drafted to provide an opportunity to revisit the Domestic Targets following the publication of the Parliamentary Commissioner for the Environment's final report early next year.
7. You have also requested advice on a suitable range within which the gross Domestic Targets could be set.
8. Our preliminary advice is that the range within which the biogenic methane Domestic Target could be set is 25-35% below 2016 levels. This lies within the bounds of the 24-47% below 2010 levels assessed in the IPCC special report on 1.5 degrees for pathways consistent with limiting warming (without overshoot) to 1.5 degrees Celsius.
9. Our preliminary advice is that the range within which the Domestic Target for all other GHGs could be set is 45-65% below 2016 levels by 2050.

10. This is preliminary advice only, drawing from the IPCC special report and studies on potential pathways to emissions neutrality in New Zealand. We are working with other agencies to provide more considered advice by 15 November.
11. Setting the Domestic Targets in legislation now is consistent with our previous advice. We note, however, that specific quantified targets have not been consulted on; nor has our regulatory impact analysis specifically considered the potential economic impacts of combining an overall Emissions Neutrality Target with two gross Domestic Targets. This means that the three Targets could be subject to greater scrutiny during the Select Committee.
12. We consider that this risk is outweighed by the risks of not setting these targets now, and mitigated by mandating the Commission to review these targets and recommend whether they should be revised. Clearly communicating this additional flexibility is likely to further mitigate these risks.

Out of scope



Out of scope



Recommendations

We recommend that you:

a. **Either** agree to separate Domestic Targets for biogenic methane and for all other greenhouse gases

Yes/No

b. **Or** direct us to establish separate Domestic Targets for short-lived (methane and

HFCs) greenhouse gases and for long-lived (all other) greenhouse gases

Yes/No

c. **Note** we will provide you with more considered advice on appropriate ranges within which the Domestic Targets could be set by 15 November

d. **Note** we will provide you with advice on incorporating a whakataukī by 15 November

e. **Discuss** your feedback on the changes to the Cabinet paper with officials at the officials' meeting on 12 November

Yes/No

Signature



Bridget Fraser
Manager, Climate Change Policy
Climate Directorate

Hon James Shaw
Minister for Climate Change

Date

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Out of Scope

s 9(2)(f)(iv)

Out of Scope

19. The scenarios assessed in the IPCC's special report on 1.5°C show that, at a global level, methane emissions from agriculture should reduce and then stabilise, and that net emissions of CO₂ should eventually fall below zero (negative emissions). Globally, converted using the GWP100 equivalence metric, this is likely to equate to emissions neutrality sometime in the second half of the century.

Out of Scope

UNFCCC COP24

UNFCCC COP24, CMP14, CMA1-3, APA 1-7,
SBI 49 and SBSTA 49

Officials' Brief



Katowice, Poland
2 – 14 December 2018

IPCC, including Special Report on 1.5°C

Key messages

Out of scope



- The report reflects growing recognition that short-lived and long-lived greenhouse gases can be treated differently. However, the report provides clear evidence that it is crucial we reduce global methane emissions in order to limit warming to no more than 1.5°C.

Out of scope



Out of scope

- In emissions pathways with no or limited overshoot of 1.5°C, global CO₂ emissions reach net zero at around 2050. Pathways that limit global warming to 1.5°C with no or limited overshoot also involve deep reductions in emissions of methane. Allowing for high overshoot, global methane emissions do not necessarily have to reduce below current levels by 2050.
- The data for net emissions of Kyoto gases in 2050 show that net-zero for these gases isn't required to limit warming to 1.5°C (not reached in any of the illustrative scenarios)
- Pathways that limit global warming to 1.5°C with no or limited overshoot show system changes that are more rapid and pronounced over the next two decades than in 2°C pathways. The rates of system changes associated with limiting global warming to 1.5°C with no or limited overshoot have occurred in the past with specific sectors, technologies and spatial contexts, but there is no documented historic precedent for their scale

Out of scope



Proposed new 2050 emissions reduction target – request for additional information

Date Submitted:	4 December 2018	Tracking #: 2018-B-05187	
Security Level	In-confidence	MfE Priority:	Non-Urgent

	Action sought:	Response by:
To Hon James Shaw, Minister for Climate Change	Noting	

Actions for Minister's Office Staff	Return the signed report to MfE.
Number of appendices and attachments 0	Titles of appendices and attachments (ie separate attached documents): Nil
Note any feedback on the quality of the report	

Ministry for the Environment contacts

Position	Name	Cell phone	1 st contact
Principal Author	Lewis Stevens		
Responsible Manager	Bridget Fraser	021 180 6739	✓
Director	Janine Smith		

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Proposed new 2050 emissions reduction target – request for additional information

1. This briefing responds to your request for additional information on:
 - a. Other countries adopting emissions neutrality targets for 2050 and their treatment of biogenic methane;
 - b. Long-term emissions reduction targets adopted in other Pacific nations.
2. We have also quality assured the aggregated target figures we provided your office. A 30% reduction in biogenic methane emissions from 2016 levels, and net zero emissions of all other gases target corresponds to a 71% reduction on 2016 emissions by 2050 when aggregated on a GWP100 basis. This is equivalent to a 65% reduction on 1990 levels by 2050. These figures have been calculated on a gross-net accounting basis.

Other countries adopting emissions neutrality targets for 2050 and their treatment of biogenic methane
3. You have asked for more information on how countries pursuing neutrality targets are addressing emissions from methane within these targets and whether the advice put forward by officials is consistent with that approach.
4. It has been difficult to collect information on how other countries are treating methane emissions. Methane is a greater problem for New Zealand than many other developed countries because it represents such a large proportion of our overall emissions.
5. Countries may elect to pursue emission neutrality targets based on a range of considerations. These may include:
 - maximising the economic opportunities and broader co-benefits of transitioning to a low-emissions economy;
 - maintaining the competitiveness of their economy and industry in an emissions constrained future global market;
 - demonstrating leadership in global efforts against climate change, including the Paris Agreement's collective goals to limit the increase in global average temperatures and to reach emissions neutrality globally in the second half of the century.
6. These considerations do not require a 2050 emissions neutrality target. Other targets could also respond to these considerations to a greater or lesser degree.
7. The Intergovernmental Panel on Climate Change's (IPCC) latest special report¹ describes global emissions scenarios to 2100 that would be consistent with limiting the global average temperature increase to 1.5°C above pre-industrial levels with limited or no overshoot.
8. The appropriate contribution each individual country makes towards these emission reduction trajectories will be informed by multi-faceted considerations. For New Zealand these considerations may include our status as a developed country, our historic emissions and contribution to warming; and other specific national circumstances – including our emissions profile.
9. New Zealand would not reach emissions neutrality this century if we followed the global trajectories for individual gases set out in the IPCC's illustrative scenarios consistent with 1.5°C. This is due to our unusually high proportion of methane emissions.

¹ Intergovernmental Panel on Climate Change, 2018. *Global Warming of 1.5°C*. Available at www.ipcc.ch/sr15/

10. Under these scenarios:

- Global emissions of CO₂ reduce to net zero around 2050, and below zero (negative) thereafter;
- Global emissions of agricultural methane reduce by between 24-47% from 2010 levels by 2050, and more slowly thereafter; and
- Expressed together using the GWP100 equivalence metric, global greenhouse gas emissions are cut by between 81-93% from 2010 levels by 2050.

Out of scope

13. The table below presents indicative economy-wide emissions reductions for each of the countries listed above, assuming they followed the individual gas trajectories set out in the four illustrative scenarios consistent with 1.5°C in the IPCC's Special Report. The reductions have been calculated on a GWP100 basis.

14. This shows that for countries with a lower proportion of methane emissions than New Zealand, following the IPCC gas trajectories results in reductions of emissions to near net zero by 2050.

	Percentage reduction by 2050 on 1990 levels (gross-net)	CH ₄ emissions in 2010 (gross)
Germany	87 – 93%	6%
Iceland	77 – 89%	16%
Netherlands	82 – 91%	9%
New Zealand	48 – 78%	36%
Norway	80 – 90%	8%
Sweden	82 – 91%	9%
United Kingdom	86 – 93%	9%
EU 28	84 – 92%	9%

Out of scope

Out of scope

Signature

B Fraser

Bridget Fraser
Manager
Climate Change

4/12/18

Date

Hon James Shaw
Minister for Climate Change

Date

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Material to support ministerial consultation on Climate Change Bill

Date Submitted:	31 January 2019	Tracking #: 2019-B-05237	
Security Level	In confidence	MfE Priority:	Non-Urgent

	Action sought:	Response by:
To Hon James Shaw, Minister for Climate Change	Noting	Nil

Actions for Minister's Office Staff	Return the signed report to MfE.
Number of appendices and attachments	Titles of appendices and attachments: Nil
Note any feedback on the quality of the report	

Ministry for the Environment contacts

Position	Name	Cell phone	1 st contact
Principal Author	Lewis Stevens		
Responsible Manager	Bridget Fraser	021 180 6739	✓
Director	Janine Smith		

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Material to support ministerial consultation on Climate Change Bill

1. This briefing provides you with material to support discussions with your colleagues on the Cabinet paper seeking decisions on the biogenic methane component of the target under the proposed Climate Change Bill.
2. It covers the following matters, as discussed with your office:
 - a. The proposed target level and key messages
 - b. Economic impacts
 - c. Biogenic methane emissions in other jurisdictions
 - d. Sources of biogenic methane emissions in New Zealand
 - e. Comparing emissions reductions required to limit warming to current levels (as per the Parliamentary Commissioner for the Environment's report) and consistency with limiting warming to 1.5°C
 - f. Agency views on the proposals in the paper
3. Pending the outcome of the consultation, we recommend that you lodge the paper by 10am on Thursday 7 February for consideration at DEV on Wednesday 13 February.

The proposed target level and key messages

4. The paper proposes that the biogenic methane target component be set to 35 per cent below 2016 levels by 2050.
5. Where we set the target is a judgement based on the available science, anticipated economic impacts, what we think could be achievable, and New Zealand's role in the global response to climate change. Officials have advised that this target component should be set within the range 22 to 35 per cent below 2016 levels by 2050.
6. We are dealing with a trade-off. More ambitious targets are more likely to be consistent with limiting warming to 1.5°C, mean New Zealand would make a greater contribution to the global response to climate change, and act as a stronger driver for the domestic low emissions transition. But they will also come with greater economic impacts.
7. The proposed target represents the best balance of these considerations for New Zealand. This is supported by advice from the Ministry for the Environment. It is:
 - a. **Consistent with limiting global warming to 1.5°C.** It represents the midpoint of the central range of scenarios for reductions in agricultural methane consistent with this temperature goal in the Intergovernmental Panel on Climate Change's latest report.
 - b. **Likely to be achievable.** Analysis from the Biological Emissions Reference Group indicates that this level of emissions reduction is achievable by 2050 if current and potential future emissions reduction technologies are developed and taken up.
 - c. **A strong signal to emitting sectors.** Innovation will be a key part of our transition to a low emissions economy. A strong target can support development and take up of new emissions reduction technologies and behaviours.
 - d. **Manageable.** The target level affects the magnitude of the overall economic impact. Where and how these impacts are felt depends on the policies used to drive achievement of the target. For example the Government has signalled, should biogenic agricultural emissions be introduced to the Emissions Trading Scheme, that this sector would receive a free allocation of units.

Out of scope

Out of scope

Emissions reductions required to limit warming to current levels vs consistency with limiting warming to 1.5°C

17. In the central range of scenarios consistent with limiting warming to 1.5°C included in the IPCC's most recent report, warming from agricultural methane is reduced from current levels.
18. The Parliamentary Commissioner for the Environment's (PCE) 2018 report, *The contribution of methane emissions from New Zealand livestock to global warming*, made an assessment of what would be required for New Zealand's livestock emissions to make no additional contribution to warming from current levels.
19. This report found that livestock emissions would need to be cut by 10 to 22 per cent in order to meet this criterion.
20. In setting our target, we are aiming for consistency with limiting global warming to 1.5°C, rather than maintaining warming at current levels as considered in the PCE assessment. This means IPCC's scenarios are the best climate science considerations to guide our target choice. This evidence points towards deeper reductions than those in the PCE assessment.

Out of scope



Recommendations

24. We recommend that you:

- a. **Forward** this to briefing to your colleagues for information before you meet to discuss the Cabinet paper

Yes/No

Signature

B Fraser
Bridget Fraser
Manager
Climate Change

Hon James Shaw
Minister for Climate Change

Date

RELEASED UNDER THE
OFFICIAL INFORMATION ACT



2019-B-05418 Memo: Agriculture and IPCC Special Report

Date Submitted:	14 March 2019	Tracking #: 2019-B-05418	
Security Level	In-confidence	MfE Priority:	Non-Urgent

	Action sought:	Response by:
To: Hon David Parker, Minister for the Environment	Noting only	n/a
To: Hon James Shaw, Minister for Climate Change	Noting only	

Actions for Minister's Office Staff	Return the signed report to MfE.
Number of appendices and attachments 0	Titles of appendices and attachments (ie separate attached documents): Nil
Note any feedback on the quality of the report	

Ministry for the Environment contacts

Position	Name	Cell phone	1 st contact
Principal Author	Dan Zwartz		
Responsible Manager	Bridget Fraser	021 180 6739	
Director	Janine Smith	021 144 7617	✓

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2019-B-05418 Memo: Agriculture and IPCC Special Report

1. This briefing is responding to your request for information regarding a letter from pastoral sector industry associations to MfE and MPI with their concerns regarding the 2050 methane target and the IPCC Special Report on 1.5 degrees.
2. A letter from six pastoral sector industry associations¹ to senior officials at MfE and MPI questions how the recent IPCC Special Report on global warming of 1.5 degrees has been used in advice about the 2050 target for methane. The letter was also sent to the offices of the Prime Minister, the Deputy Prime Minister, Ministers Parker, Shaw, Jones and O'Connor and Todd Muller.
3. The letter raises three main points:
 - a. The Special Report mentions a 35 per cent reduction in total global methane emissions (including agricultural, waste and fossil) in pathways consistent with limiting warming to 1.5 degrees. The writers are concerned that this "headline" number has been used to inform advice on New Zealand's 2050 target.
 - b. It addresses concerns about how New Zealand's targets for different gases reflect the relative contribution to meeting the chosen temperature goal.
 - c. It restates the writers' position, expressed in a submission last year, that they support a methane emissions target that would lead to no additional warming.
4. In our view, the first point is mistaken: when a 35 per cent reduction has been discussed in advice to Ministers, it has been with reference to the middle of the central range of agricultural methane emissions reductions in 2050, which is 24 – 47 per cent below 2010 levels. This range is included in the Special Report's Summary for Policy Makers. It is an unfortunate coincidence that both these numbers are 35 per cent, which has led the writers to believe that the "headline" number was used.
5. The second point reflects the need for the target, and the policies to implement it, to be equitable and perceived to be so.
6. The "no additional warming from methane" target supported by the writers would require a smaller reduction than a target reflecting global pathways consistent with limiting warming to 1.5 degrees.

Out of scope



Key messages for responding to the letter

9. The IPCC Special Report contains more information on the role of agricultural emissions than the "headline" number for methane addressed in the letter. Specifically, the report presents

¹ Beef + Lamb New Zealand, DairyNZ, Dairy Companies Association of New Zealand, Deer Industry New Zealand, Federated Farmers, and the Meat Industry Association

the reductions in agricultural emissions in scenarios consistent with limiting warming to 1.5 degrees.

10. A wide range of information has been considered by officials in preparing advice on the 2050 target, including all of the points raised in the letter.
11. Decisions about New Zealand's 2050 emissions target have not yet been made.

Detailed responses to points raised in the letter

Page 2: *We would be very concerned if New Zealand were to base its approach to agricultural methane under the ZCB on this media headline figure.*

No advice on the 2050 target has been based on this figure

Page 2: *we would like to understand how this report is being used for advice to government in its deliberations.*

All relevant information in the Special Report has been considered, as well as analysis of the detailed emissions pathways on which the report is based.

Page 3: *There is no detail [in the IPCC Special Report] that explains the choice of a 35 percent reduction in methane.*

This is mistaken. The information is shown in Figure SPM.3a (for the "headline" number), and is contained in the underlying emissions pathways. For the agriculture sector, the information is contained in Figure SPM.3b in the Summary for Policy Makers supported by analysis in the underlying report

Page 3: *The methane modelling [in the IPCC Special Report] includes methane from all sources.*

This is true for the "headline" number, but there are specific statements in the report on emissions pathways for the agriculture sector (among others), and detailed information is available in the underlying emissions pathways.

Page 3: *We therefore ask how has this been factored into advice to Ministers on the potential pathway options available for New Zealand to achieve its contribution to the Paris Agreement?*

Sector-specific information was used in preparing advice to Ministers about the 2050 emissions target.

Page 4: *Are we correct in understanding that if New Zealand was to take an approach of net-zero nitrous oxide emissions, the cuts required for methane would be lower? Or were the assumptions in the scenario also used methane as an offset for taking a longer-time to reach net-zero for carbon dioxide emissions?*

The question is unclear, but no advice was provided to Ministers considering methane emissions reductions as an "offset" for nitrous oxide emissions.

Page 4: We note that the Parliamentary Commission [sic] for the Environment (PCE) report on methane emissions from livestock released August 2018 did include a scenario where global emissions are reduced to meet a "well-below 2 °C" goal, and the methane reductions required to meet that scenario fell in the range of 10-22 percent reductions

This misinterprets the PCE note, which says:

This modelling tells us that if other countries take strong and rapid action to meet the 'well-below 2°C' goal, New Zealand's emissions of methane from livestock would need to be reduced by about 22 per cent to avoid additional warming.

Signature



Janine Smith
Director
Climate Change

Hon David Parker
Minister for the Environment

Date

Hon James Shaw
Minister for Climate Change

Date

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14/3/19



Cover note to draft Cabinet paper - targets

Date Submitted:	26 March 2019	Tracking #: 2019-B-05453	
Security Level	In-confidence	MfE Priority:	Urgent

	Action sought:	Response by:
To Hon James Shaw, Minister for Climate Change	Cabinet paper to be lodged. Any further direction to MfE.	27-28 March 2019

Actions for Minister's Office Staff	Return the signed report to MfE.
Number of appendices and attachments 1	Titles of appendices and attachments (ie separate attached documents): 1. Draft Cabinet paper 2019-C-05435 <i>Biogenic methane reductions required under the Zero Carbon Bill</i>
Note any feedback on the quality of the report	

Ministry for the Environment contacts

Position	Name	Cell phone	1 st contact
Principal Author			
Responsible Manager	Bridget Fraser	021 1806 739	✓
Director	Janine Smith	021 144 7617	

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Cover note to draft Cabinet paper - targets

1. This briefing accompanies a draft Cabinet paper 2019-C-05435 *Biogenic methane reductions required under the Zero Carbon Bill*.
2. The paper contains recommendations to Cabinet about the details of a target for emissions reduction for inclusion in Climate Change/Zero Carbon legislation – including targets for reduction of emissions of biogenic methane – which we have drafted at your direction.
3. The Cabinet paper reflects a two-stage approach to targets for reductions in emissions of biogenic methane. This briefing provides information relevant to the proposed 2030 target, and advice on the 2050 target. We will provide you tomorrow with a comparison of how the proposed targets compare with the IPCC's central range of global reductions for scenarios that would limit warming to 1.5°C with limited or no overshoot.

Out of scope



Advice on deciding the target for 2050

10. In order to provide for effective consideration of the appropriate level of the third and subsequent emissions budgets (which will be for the period after 2030), we recommend that there is a specific level for the 2050 target for emissions of biogenic methane. Within the target framework you have proposed, this could be achieved by deciding on a target within the range described (24-47% below 2010 levels), following advice of the Commission.
11. Under the agreed framework for Climate Change/Zero Carbon legislation, the Commission will be due to provide advice on the level of the first three emissions budgets in 2021, with those budgets set by the government before the beginning of 2022. Those emissions budgets will be for the periods 2022-2025, 2026-2030 and 2031-2035.
12. Our advice would be that any advice from the Commission about the 2050 target for biogenic methane should be given in 2021, at the same time as the Commission's advice about the first three emissions budgets, so that the advice can inform decisions about the third emissions budget (for the period beginning 2031).
13. We seek your direction on whether to include a process for setting a specific target for biological methane emissions by 2050 in the Cabinet paper.

Next steps

14. If needed, we can make changes that you direct tomorrow, before lodgement of the paper on Thursday.
15. Please instruct us on how you would like us to engage with other departments on the content of the Cabinet paper.

Recommendations

16. We recommend that you:

- a. **Agree** to lodge the attached Cabinet paper by 10 am on Thursday 28 March,
Or direct officials to make changes to the paper tomorrow (27 March)

Lodge/Changes

- b. **Instruct** officials on your preferred approach to departmental consultation on the content of the Cabinet paper

Signature



Janine Smith
Director
Climate Change

26/3/19.

Hon James Shaw
Minister for Climate Change

Date



Climate Change Bill: Advice on target formulation and legal accountability

Date Submitted:	28 March 2019	Tracking #: 2019-B-05461	
Security Level	In confidence	MfE Priority:	Non-Urgent

	Action sought:	Response by:
To Hon James Shaw, Minister for Climate Change	Decisions	

Actions for Minister's Office Staff	Return the signed report to MfE.
Number of appendices and attachments: 1	1. Comparison of NDC and proposed new targets 2005-2050
Note any feedback on the quality of the report	

Ministry for the Environment contacts

Position	Name	Cell phone	1 st contact
Principal Author	Lewis Stevens	S9(2)(a)	✓
Responsible Manager	Bridget Fraser		
Director	Janine Smith		

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Climate Change Response (Zero Carbon) Amendment Bill: Advice on target formulation and legal accountability

1. As requested by your office, this briefing provides you with:
 - a. Advice on the implications of including a target to reduce net emissions of greenhouse gases by 30% below 2005 levels by 2030 in the proposed new climate change legislation.
 - b. Options for how to proceed in respect of legal accountability under the proposed new legislation. This advice follows conversations with your office and the Parliamentary Counsel Office on the drafting of the bill.

2. These points are dealt with in turn below.

Target formulation

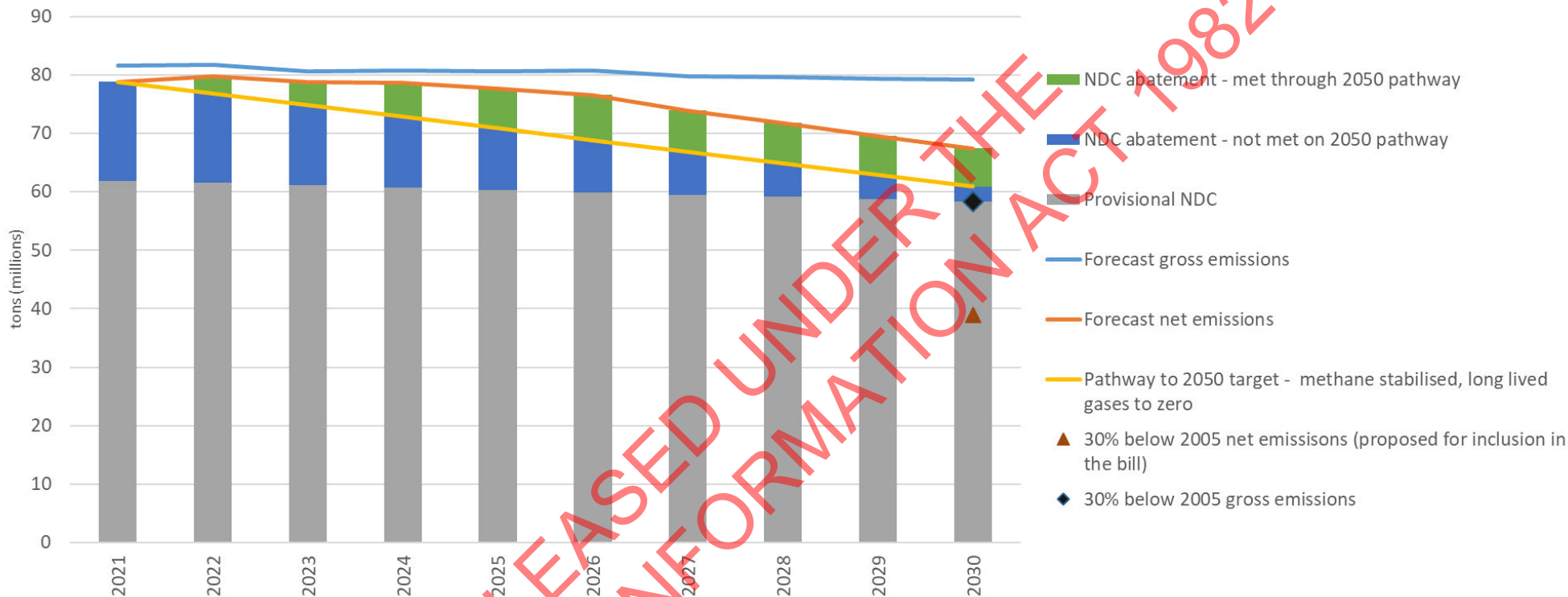
3. We understand you are considering legislating a target for 2030 through the Climate Change Response (Zero Carbon) Amendment Bill ("Bill") to reduce net emissions of greenhouse gases to 30% below 2005 levels by 2030; including a 10% reduction in biogenic methane emissions below 2005 levels by 2030.

Out of scope



- d. Compatibility with the central range of IPCC scenarios consistent with limiting global warming to 1.5°C with limited or no overshoot.
5. These points are dealt with in turn below. The plot below shows the difference between the various components of the target that are under discussion, and how this compares to our first NDC. The appendix presents this same plot over the period 2005 to 2050 for context.

Comparison of NDC and proposed new targets



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Out of scope



Compatibility with the central range of IPCC scenarios consistent with limiting global warming to 1.5°C with limited or no overshoot.

16. The proposed formulation of the 2050 target for biogenic methane calls strongly on the

¹ We have assumed UNFCCC reporting approach in our calculations as this is the data we have for 2005

IPCC's central range of scenarios consistent with limiting global warming to 1.5°C with limited or no overshoot.

17. The IPCC reports global emissions reductions in 2030 under the same scenarios. These indicate a central range of reductions in agricultural methane emissions between 11% and 30% on 2010 levels.
18. Converting these figures to a baseline of New Zealand's 2005 biogenic methane emissions (in line with the proposed target for 2030) gives an emissions reduction range of 16% and 34%.
19. The IPCC does not prescribe any policy approach or target, and the global emissions reductions do not necessarily apply to an individual country, but given the weight placed on its scenarios in the 2050 target formulation we recommend that this be considered in any decision on a 2030 target.

Out of scope



Recommendations

25. We recommend that you:

- a. **Discuss** the advice on the target formulation with officials

Yes/No

- b. **Either** agree to retain clauses limiting the legal liability of the Crown under the Bill

Yes/No

- c. **Or** agree to seek new policy approvals from Cabinet on the treatment of legal liability, noting that this will delay Cabinet's decision to introduce the Bill from 6 May

Yes/No

Signature

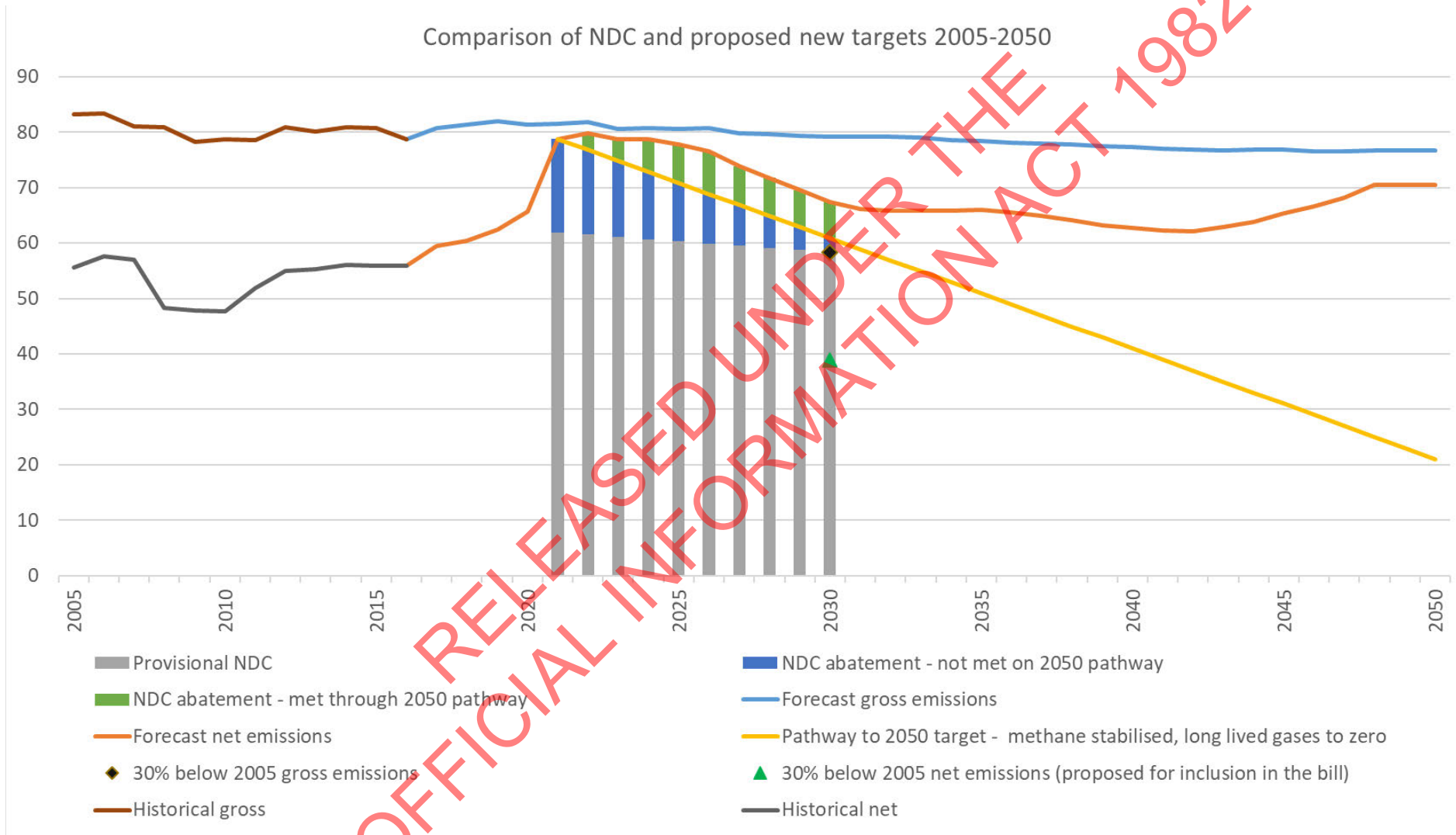
Janine Smith
Director
Climate Change

Hon James Shaw
Minister for Climate Change

Date

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Appendix: Comparison of NDC and proposed new targets 2005-2050



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Biogenic methane reductions required under the Zero Carbon Bill (second draft of the Cabinet paper)

Date Submitted:	4 April 2019	Tracking #: 2019-B-05486	
Security Level	In-confidence	MfE Priority:	Non-Urgent

	Action sought:	Response by:
To Hon James Shaw, Minister for Climate Change	Note this briefing and discuss with officials	8 April 2019

Actions for Minister's Office Staff	Return the signed report to MfE.
Number of appendices and attachments #1	Appendix A: Cabinet paper: Biogenic methane reductions required under the Zero Carbon Bill
Note any feedback on the quality of the report	

Ministry for the Environment contacts

Position	Name	Cell phone	1 st contact
Principal Author	Jemima Jamieson	s9(2)(a)	
Responsible Manager	Lewis Stevens	0204 009 5469	✓
Director	Janine Smith	021 144 7617	

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Biogenic methane reductions required under the Zero Carbon Bill (second draft of the Cabinet paper)

1. On 3 April 2019, you discussed possible target formulations with officials (2019-B-05483). In light of this conversation, you requested a number of changes to the paper that seeks Cabinet approval to the reductions of biogenic methane emissions required under the Climate Change Response (Zero Carbon) Amendment Bill (**the Bill**).

The Cabinet paper has been updated as requested

2. This briefing appends the draft Cabinet paper, which reflects your requested changes and now includes:
 - a biogenic methane component of the 2050 target that will reduce emissions of biogenic methane to 24-47 per cent below 2017 levels by 2050, and includes an additional requirement to reduce emissions of biogenic methane to 10 per cent below 2017 levels by 2030;
 - a 2017 baseline that applies to the biogenic methane component of the 2050 target, including the reductions that are required by 2030; and
 - the ability for the Climate Change Commission (**Commission**) to review any or all aspects of the 2050 target when it provides its advice on the fourth emissions budget, including the 2030 reductions in biogenic methane.

Out of scope



Recommendations

9. We recommend that you:

- a. **Discuss** your comments on the Cabinet paper at your meeting with officials on Monday, 8 April

Yes/No

Signature



Janine Smith
Director
Climate Change

Hon James Shaw
Minister for Climate Change

Date

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Zero Carbon Amendment Bill Communications material for public announcements

Date Submitted:	3 May 2019	Tracking #: 2019-B-05564	
Security Level	In Confidence	MfE Priority:	Non-Urgent
To Hon James Shaw, Minister for Climate Change		Action sought: Review and provide comments	Response by: 6 May 2019
Actions for Minister's Office Staff	Review and provide comments to MfE officials. Return the signed report to MfE.		
Number of appendices and attachments #4	Titles of appendices and attachments (ie separate attached documents): Attachment 1. Draft Q&A document Attachment 2. Draft presentation for lock up on 8 May Attachment 3. Final media release Attachment 4. Summary document, including Ministerial foreword		
Note any feedback on the quality of the report			

Ministry for the Environment contacts

Position	Name	Cell phone	1 st contact
Principal Author	Lauren Kelly		
Responsible Manager	Bridget Fraser	021 180 6739	✓
Director	Janine Smith	021 144 7617	

Attachment 1. Draft Q&A document

A number of out of scope pages have been removed
from this document

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Targets

12. Why was a split target chosen?

The latest climate science shows that different greenhouse gases have different warming effects on the climate. This means that for the world to limit global warming to 1.5°C, reductions in gases that remain in the atmosphere for a long time (like carbon dioxide) need to be prioritised over gases which have a shorter lifetime (like methane).

The target in the Bill reflects these differences – setting out that we need to reach net zero emissions of all greenhouse gases (including carbon dioxide) aside from biogenic methane by 2050, while still achieving a significant reduction in our emissions of biogenic methane.

13. Why is the target for biogenic methane different?

There are two types of processes that emit methane to the atmosphere: biogenic and fossil.

Biogenic methane is produced from biological (plant and animal) sources. This is carbon that has recently been derived from CO₂ present in the atmosphere. When the methane is emitted, it causes additional warming (as methane is a more potent greenhouse gas than carbon dioxide), but over time it decays back to CO₂, without adding to the concentration of CO₂ in the long term.

Fossil methane emissions, on the other hand, return geological carbon to the atmosphere that has typically been stored underground for millions of years. Releasing this methane adds to the atmospheric concentration of CO₂ (as well as causing additional warming as methane). The Zero Carbon Amendment Bill aims to reduce our emissions of fossil methane, together with other greenhouse gases except biogenic methane, to net zero.

For the purposes of our 2050 target, biogenic methane is defined as that produced by the agriculture and waste sectors, which comes from biological (plant and animal) sources. The methane from agriculture is almost all from ruminant livestock (released in sheep and cow burps). The methane from waste is produced by organic material decomposing in landfills.

Rather than aiming for zero emissions of biogenic methane, the Zero Carbon Amendment Bill aims to reduce our emissions of biogenic methane within the range of 24–47 per cent below 2017 levels by 2050, including to 10 per cent below 2017 levels by 2030.

14. Why does the biogenic methane target include a range?

The reduction to within a specific range reflects the uncertainty that currently surrounds both the actual reduction required to meet the temperature goal, and the technological developments that would reduce biogenic methane emissions.

These uncertainties are represented in the ranges published by the Intergovernmental Panel on Climate Change (IPCC), Biological Emissions Reference Group (BERG), and the Parliamentary Commissioner for the Environment (PCE), although the goals of these three reports are not directly comparable.

The range of 24-27 per cent reflects the IPCC special report, which found that in scenarios limiting warming to 1.5 degrees with limited or no overshoot, the central range of reductions in global agricultural methane emissions is 24-47 per cent below 2010 levels. Although the IPCC range does not prescribe a target for any individual country, consistency with this global range ensures that New

Zealand's 2050 target aligns with the 1.5 degree temperature goal, and signals a commitment to strong global action.

15. Why does the target include an interim 2030 reduction for biogenic methane?

The target will include an interim goal to reduce gross biogenic methane emissions to 10 per cent below 2017 levels by 2030.

The BERG reported that total biological emissions from agriculture (of all gases, including methane, nitrous oxide and carbon dioxide) could reduce by 10-21 per cent by 2030 relative to baseline projections, if a range of mitigation options is implemented in packages. The report suggests that there is potential to increase the uptake of on-farm mitigation measures.

While we expect that emissions per unit of production will continue to decrease, to achieve real emissions reductions and meet the 2030 interim requirement, leaders in the agricultural sector will need to set goals to improve the efficiency of their operations, and reduce their overall emissions.

16. You've said we need to go hard on reducing all gases, including agricultural methane?

The first component of the 2050 target would reduce all greenhouse gases, except biogenic methane, to net zero by 2050.

The latest climate science shows that different greenhouse gases have different warming effects on the climate. This means that for the world to limit global warming to 1.5°C, reductions in gases that remain in the atmosphere for a long time (like carbon dioxide) need to be prioritised over gases which have a shorter lifetime (like methane).

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Media release

Minister for Climate Change

Wednesday 8 May 2019

Zero Carbon Bill policy decisions announced


Out of scope



The bill will also set in law, for the first time a new greenhouse gas emissions reduction target for 2050, to reduce all greenhouse gases (except biogenic methane) to net zero by 2050 and to reduce biogenic methane within the range of 24-47 per cent below 2017 levels by 2050, with an initial reduction to 10 per cent below 2017 levels by 2030.

"The form and level of this target was informed by climate science, such as the Intergovernmental Panel on Climate Change (IPCC)'s latest report and research on emerging technology such as the BERG report and the Productivity Commission report started by the previous government" the Minister says.

Out of scope



The proposals

Setting a long-term emissions reduction target

Out of scope

Key proposals

The purpose section of the Zero Carbon Amendment Bill will clearly articulate Aotearoa New Zealand's commitment to reduce greenhouse gas emissions to a level consistent with holding global warming to no more than 1.5 degrees Celsius above pre-industrial levels.

This target will be set in primary legislation on the passing of the Zero Carbon Amendment Bill.

The emissions reduction target is to:

- reduce all greenhouse gases (except biogenic methane) to net zero by 2050
- reduce emissions of biogenic methane within the range of 24–47 percent below 2017 levels by 2050, including to 10 percent below 2017 levels by 2030

Out of scope

Out of scope

The target will distinguish between biogenic methane and all other greenhouse gases

Our target distinguishes between biogenic methane and all other greenhouse gases.

The 2018 report of the Intergovernmental Panel on Climate Change¹ (IPCC) concluded that in scenarios consistent with limiting warming to 1.5 degrees Celsius, as set out in the Paris Agreement,² with limited or no overshoot:

- global emissions of carbon dioxide (CO₂) reduce to net zero around 2050, and below zero (negative) thereafter
- global emissions of agricultural methane reduce by 24–47 per cent from 2010 levels by 2050³
- expressed together using the GWP₁₀₀ equivalence metric, global greenhouse gas emissions are cut by 81–93 per cent from 2010 levels by 2050⁴.

The different requirements for CO₂ and methane are due to their different lifetimes in the atmosphere, potency as greenhouse gases, and consequently their warming effects.⁵ The emissions pathways in the IPCC report also reflect the mitigation options available, and their cost.

CO₂ is a long-lived greenhouse gas: it persists in the atmosphere for hundreds to thousands of years. Methane is short-lived: it degrades over decades. Emissions of short-lived gases can continue at a stable rate without necessarily increasing their concentration in the atmosphere. Our other major greenhouse gas, nitrous oxide (N₂O), has a lifetime between those of CO₂ and methane. In the context of achieving the temperature goals of the Paris Agreement, it can be considered as a long-lived gas.

A target that treats these gases differently reflects the IPCC assessment of how to limit warming to 1.5 degrees Celsius. New Zealand experts give similar advice, including that the world must reduce emissions of both long- and short-lived gases to achieve the Paris Agreement's temperature goal.⁶

This target will provide the goal posts for our transition to a low-emissions, climate resilient economy. It will also provide the confidence and incentives to drive domestic investment in low-emission technology, and diversification into low-emission industries.

Out of scope

¹ Intergovernmental Panel on Climate Change (2018). Global Warming of 1.5 °C. Available from www.ipcc.ch/report/sr15/.

² Article 2,1,(a) of the Paris Agreement sets out the aims of the Agreement, which include “Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change”.

³ This is the central (interquartile) range, as provided in Figure SPM.3b of the Summary for Policy Makers, IPCC Special Report on Global Warming of 1.5°C.

⁴ This is the central (interquartile) range, as provided in Figure SPM.3b of the Summary for Policy Makers, IPCC Special Report on Global Warming of 1.5°C. Note that the IPCC report uses GWP₁₀₀ values from the Second Assessment Report (1996).

⁵ IPCC Special Report on Global Warming of 1.5°C.

⁶ For example: Allen, M. R., Shine, K. P., Fuglestedt, J. S., Millar, R. J., Cain, M., Frame, D. J., & Macey, A. H. (2018). A solution to the misrepresentations of CO₂-equivalent emissions of short-lived climate pollutants under ambitious mitigation. *Npj Climate and Atmospheric Science*, 1(1), 16; and Reisinger, A. (2018). The contribution of methane emissions from New Zealand livestock to global warming: Report to the Parliamentary Commissioner for the Environment.