

Simon Mandal Johnson <Simon.Mandal Johnson@mfe.govt.nz> 12/5/2024 8:57 PM

Hello Cherly put me your wayo n the methane report

Simon Mandal Johnson <Simon.Mandal Johnson@mfe.govt.nz> 12/5/2024 8:57 PM

I have a quick question if I may?

Jessica Bensemam <Jessica.Bensemam@mfe.govt.nz> 12/5/2024 8:59 PM

Go for it

Jessica Bensemam <Jessica.Bensemam@mfe.govt.nz> 12/5/2024 9:00 PM

Feel free to call if easier

Simon Mandal-Johnson <Simon.Mandal-Johnson@mfe.govt.nz> 12/5/2024 9:01 PM

I'll try here - in a hui until 11ish

Simon Mandal-Johnson <Simon.Mandal-Johnson@mfe.govt.nz> 12/5/2024 9:02 PM

Can you explain this claim from the report: "The results show that the warming effect of New Zealand's methane is not solely dependent on NZ's actions.?"

Simon Mandal Johnson <Simon.Mandal Johnson@mfe.govt.nz> 12/5/2024 9:02 PM

I am struggling to understand the link between global actions and the warming effects of NZ's emissions. (

Jessica Bensemann <Jessica.Bensemann@mfe.govt.nz> 12/5/2024 9:09 PM

Good question we need to be able to explain that better to Ministers as well. I remember learning this fact when I first became interested in climate change and agriculture and was like oh dear, this is going to be really hard to solve.


Pretty much when you reduce the amount of methane in the atmosphere, it makes the radiative forcing of the remaining methane in the atmosphere stronger which increases it's warming. There's other relationships with the other gases in the atmosphere as well - volume, composition.

So - if the world reduces emissions - less methane (and other gases) in atmosphere - then NZ's emissions that keep happening will be more "angry" (my term) and cause more warming. This is why we have to go even further (the 24% relative to the 15% say) to keep the same level of warming.

If there's still lots of methane and other gases up there - the emissions that NZ emit (and other gases up there) are more "chill" don't cause so much warming, so therefore we need to do less to keep same level of warming.


Jessica Bensemann <Jessica.Bensemann@mfe.govt.nz> 12/5/2024 9:10 PM

9(2)(g)(i)



Message edited: Jessica Bensemann <Jessica.Bensemann@mfe.govt.nz> 12/5/2024 9:12 PM

9(2)(g)(i)



Simon Mandal-Johnson <Simon.Mandal-Johnson@mfe.govt.nz> 12/5/2024 9:12 PM

So this (

Simon Mandal-Johnson <Simon.Mandal-Johnson@mfe.govt.nz> 12/5/2024 9:12 PM

'when you reduce the amount of methane in the atmosphere, it makes the radiative forcing of the remaining methane in the atmosphere stronger which increases it's warming'

Simon Mandal Johnson <Simon.Mandal Johnson@mfe.govt.nz> 12/5/2024 9:12 PM

is really interesting. I simply didn't know that

Jessica Bensemman <Jessica.Bensemman@mfe.govt.nz> 12/5/2024 9:13 PM

Yep 9(2)(g)(i)

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(not so polite term)

Simon Mandal Johnson <Simon.Mandal Johnson@mfe.govt.nz> 12/5/2024 9:13 PM

Followup Q: presumably the relationship isn't linear? i.e. if I reduce methane by one unit, the radiating force of teh remaining methane increases by less than 1 unit...

Jessica Bensemman <Jessica.Bensemman@mfe.govt.nz> 12/5/2024 9:13 PM

Totally.

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Do you happen to know what the rough ratio is?

Jessica Bensemann <Jessica.Bensemann@mfe.govt.nz> 12/5/2024 9:13 PM

That's why in the report there's not a nice clear linear relationship across the SSPs

Jessica Bensemann <Jessica.Bensemann@mfe.govt.nz> 12/5/2024 9:15 PM

Good question I don't know. We could ask Tom. 9(2)(f)(iv)

Jessica Bensemann <Jessica.Bensemann@mfe.govt.nz> 12/5/2024 9:16 PM

I have a feeling Tom might say there's not a ratio and that it's too dependent on a number of variables such as the lifetime of methane (which also changes depending on composition)

Simon Mandal Johnson Simon Mandal Johnson@mfe.govt.nz +like 12/5/2024 9:16 PM

Simon Mandal-Johnson <Simon.Mandal-Johnson@mfe.govt.nz> 12/5/2024 9:16 PM

Jessica Bensemann

That's why in the report - there's not a nice clear linear relationship across the SSPs

What's SSP sorry?

Jessica Bensemann <Jessica.Bensemann@mfe.govt.nz> 12/5/2024 9:17 PM

Those are the IPCC scenarios for what could happen with global emissions and socio-economic pathways.

Simon Mandal Johnson <Simon.Mandal Johnson@mfe.govt.nz> 12/5/2024 9:17 PM

Hmm. Fair. But as long as this is true 9(2)(g)(i)

Simon Mandal-Johnson

Followup Q: presumably the relationship isn't linear? i.e. if I reduce methane by one unit, the radiating force of teh remaining methane increases by less than 1 unit...

Jessica Bensemann <Jessica.Bensemann@mfe.govt.nz> 12/5/2024 9:17 PM

They're used to model differnt global emissions pathways including composition /volume of different gases

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Simon Mandal-Johnson

Hmm. Fair. But as long as this is true - 9(2)(g)(i)

The general scientific consensus is we still need to make large cuts to methane - and they will know this relationship but you're right, it's not talked about a lot (maybe so that everyone doesn't lose hope?)

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Makes sense

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Definitely worth unpacking

Simon Mandal-Johnson <Simon.Mandal-Johnson@mfe.govt.nz> 12/5/2024 9:21 PM

It's the only real technical ambiguity (from my perspective) in the report

Jessica Bensemamann <Jessica.Bensemamann@mfe.govt.nz> 12/5/2024 9:21 PM

It might be why we currently have a target that goes up to 47% because that's what's needed to account for any other reductions in methane and THEN go further still

Jessica Bensemamann <Jessica.Bensemamann@mfe.govt.nz> 12/5/2024 9:21 PM

Simon Mandal-Johnson

It's the only real technical ambiguity (from my perspective) in the report

Yes it's counterintuitive

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Agreed!