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# Mitigation in the Land Sector: Challenges and choices

Andy Reisinger, Deputy Director, NZAGRC  
E-Mission Possible Roundtable, 8 December 2017



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- 1) How big's the problem?
- 2) How might we choose to respond?
- 3) How could we get there?



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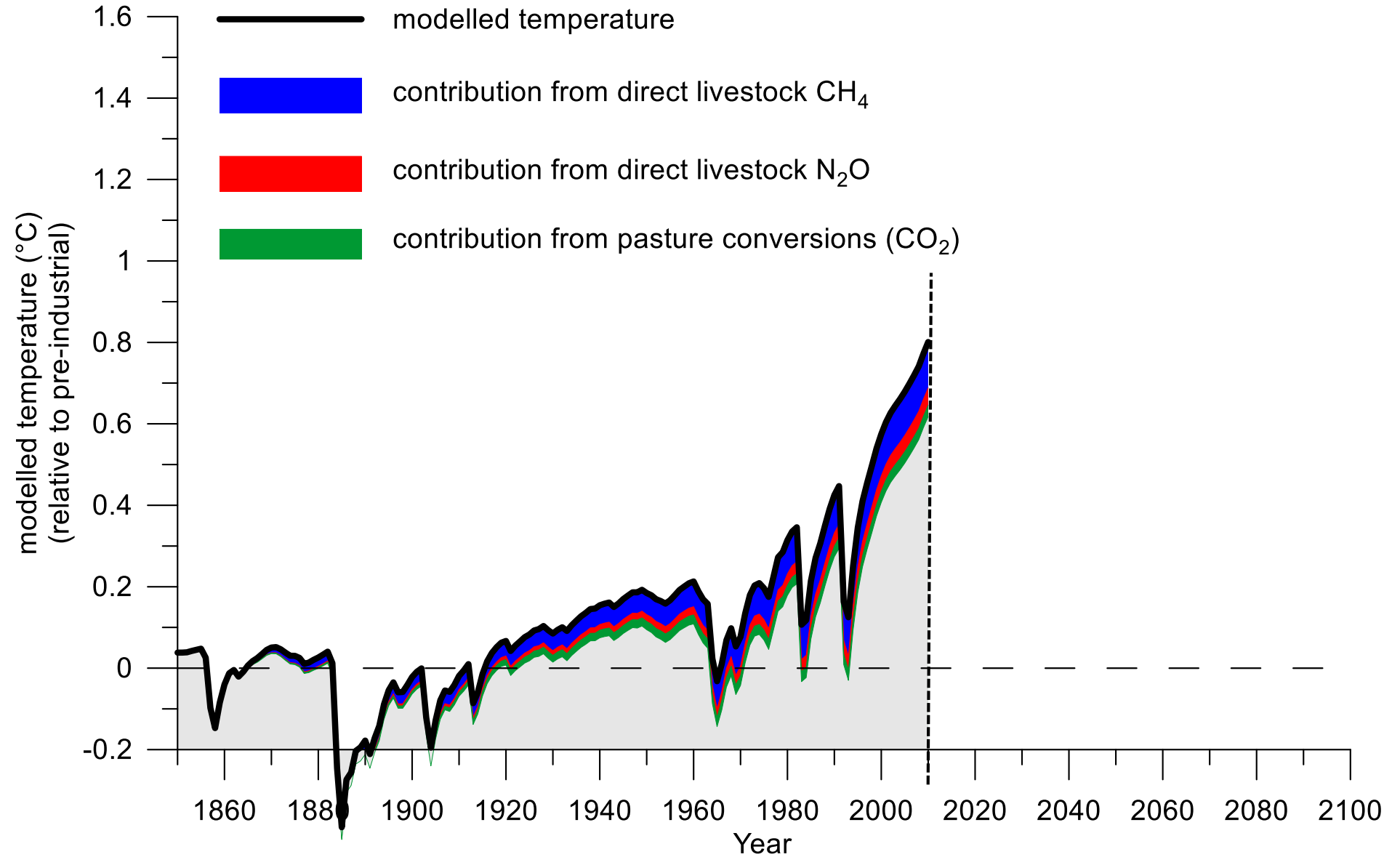
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Twenty three percent:  
livestock directly adds this  
to current warming



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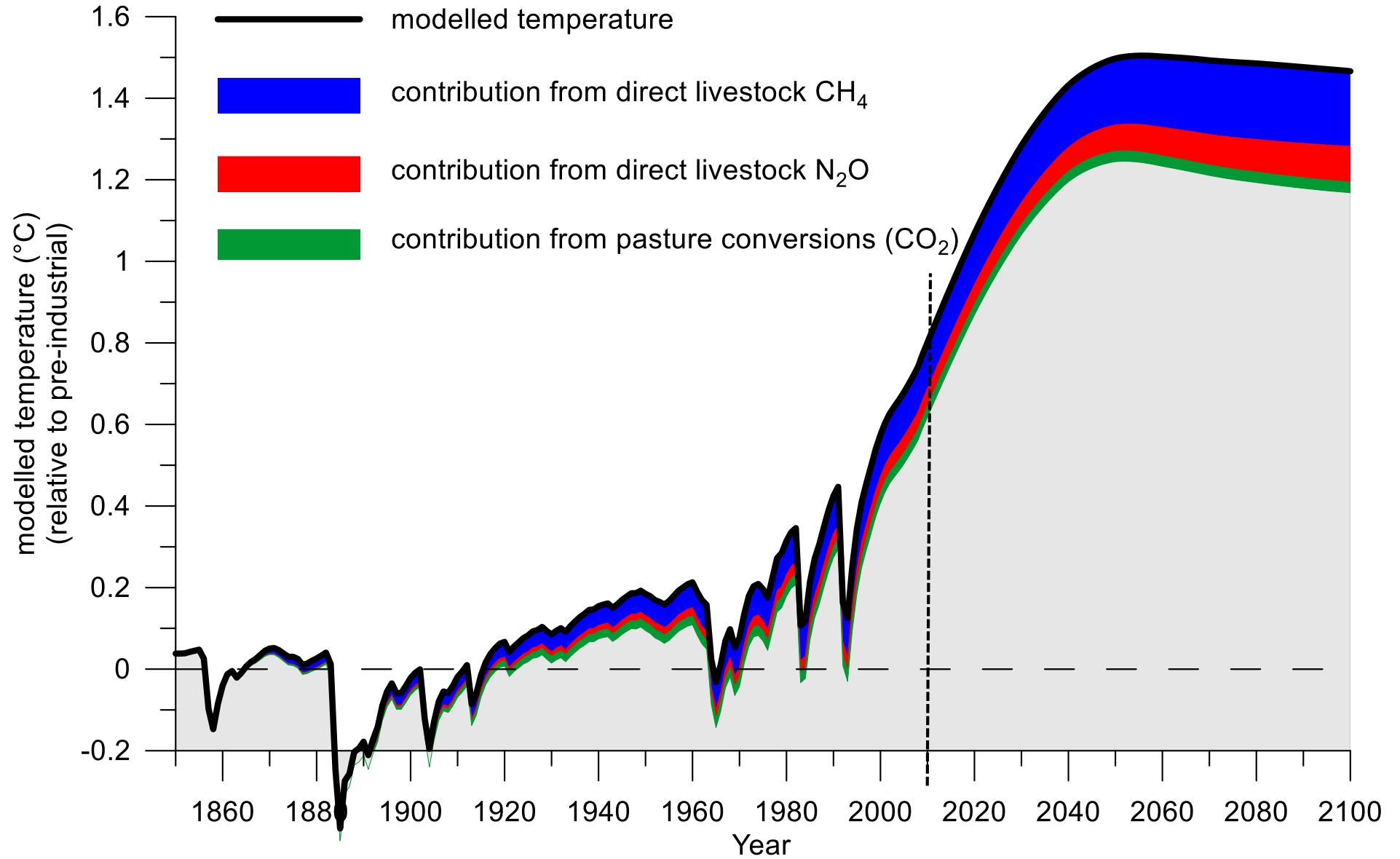
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One fifth of warming:  
do we shove all this into  
the too-hard basket ?

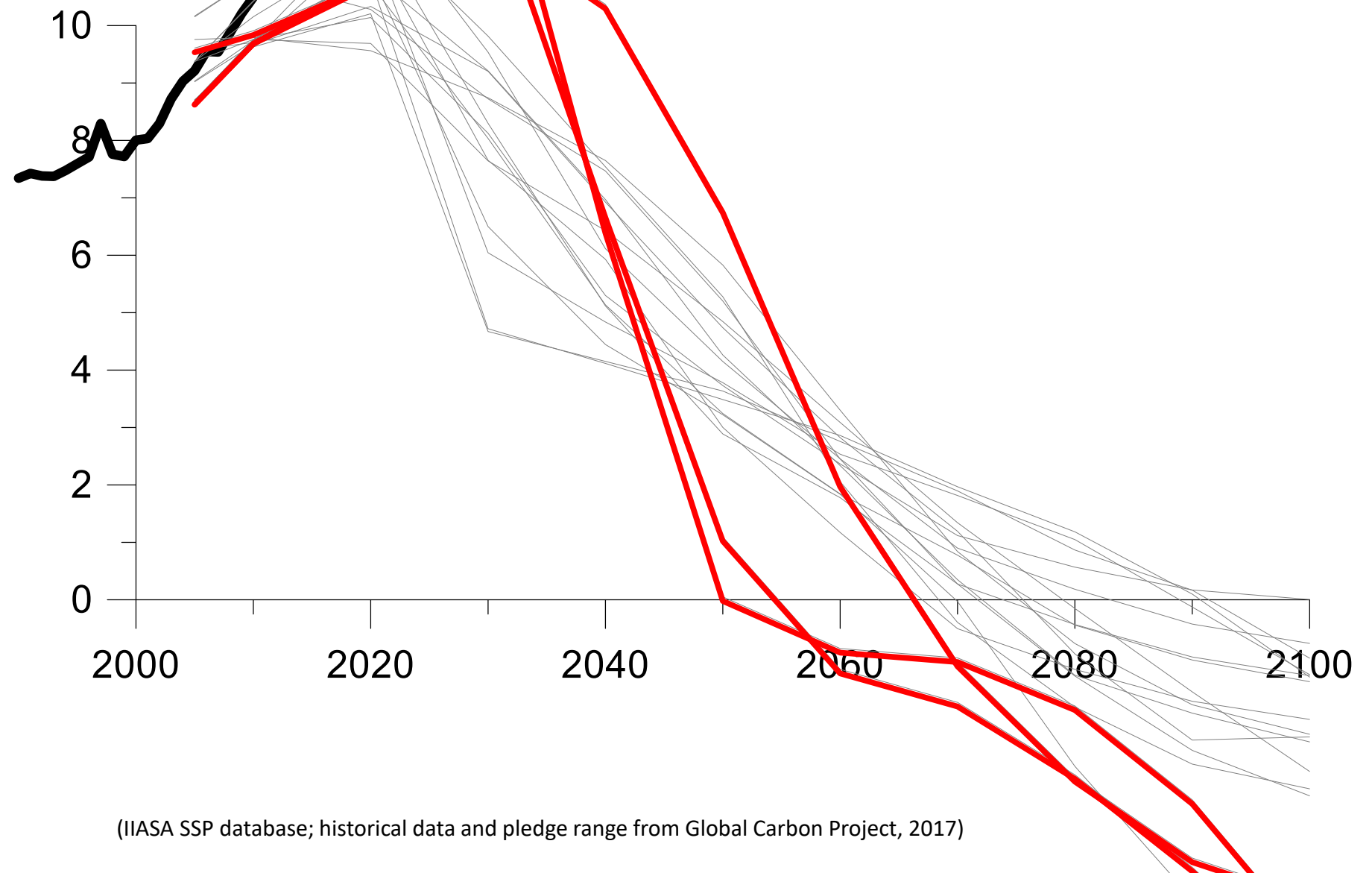


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One fifth of warming:  
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net CO<sub>2</sub> emissions

Paris pledges (NDCs)



(IIASA SSP database; historical data and pledge range from Global Carbon Project, 2017)





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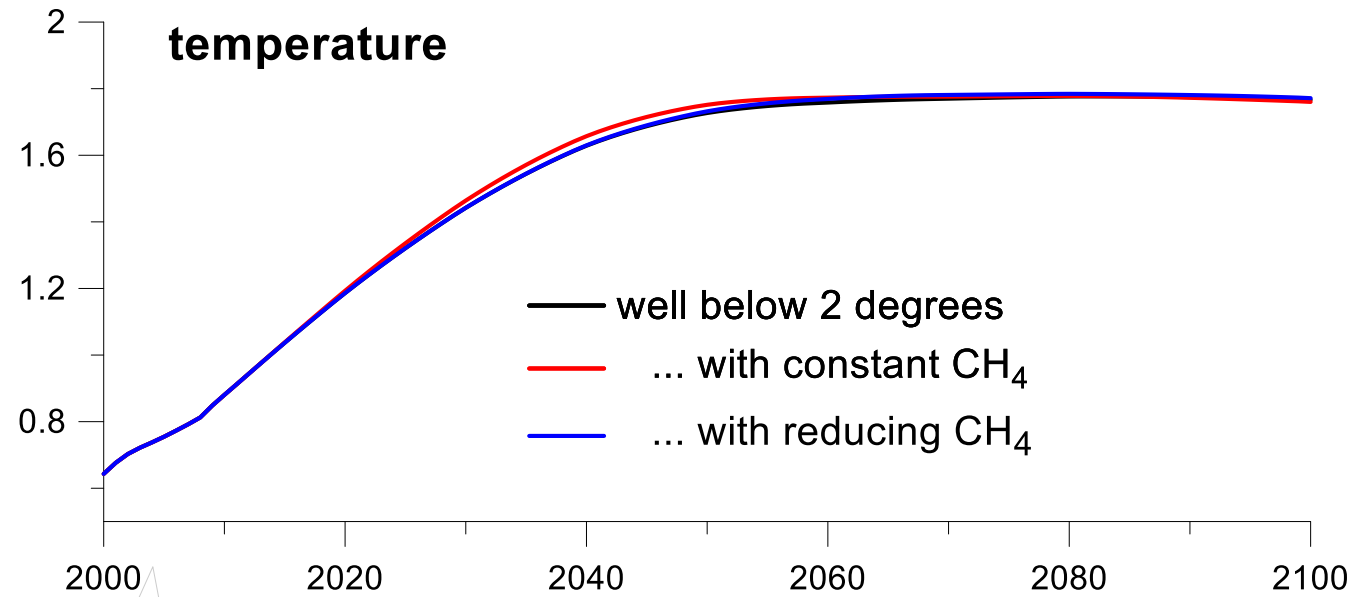
Carbon-zero is  
no end-goal; just a way-point  
to recovery



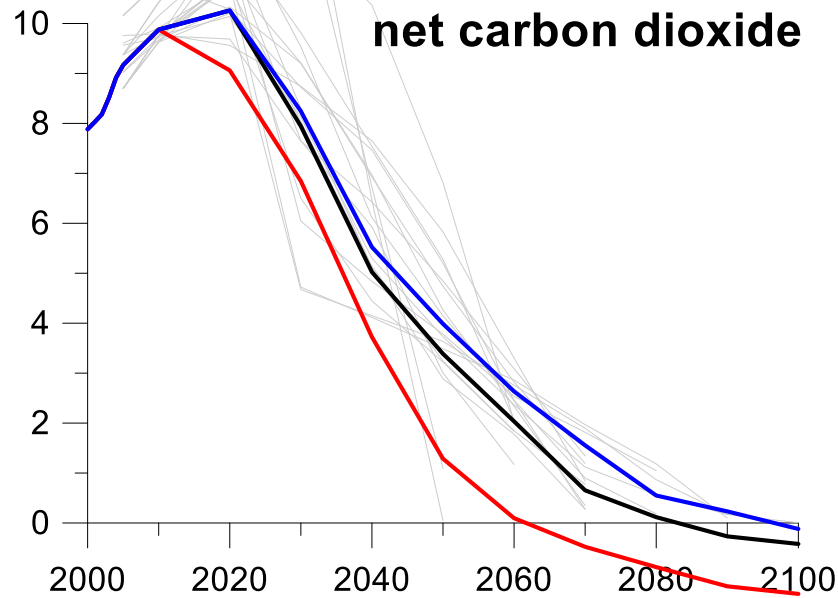
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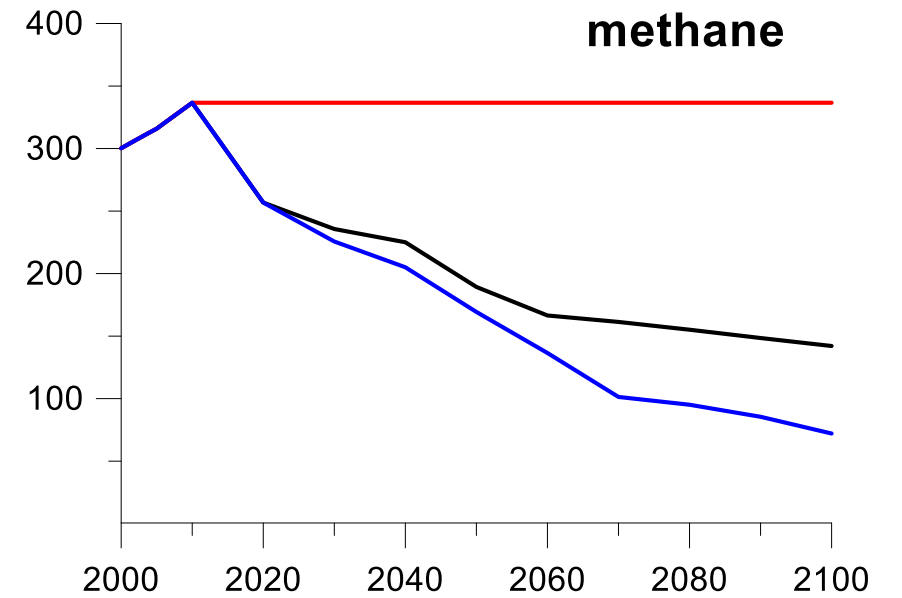
### temperature



### net carbon dioxide



### methane





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Reducing methane  
and removing CO<sub>2</sub>:  
the same for climate



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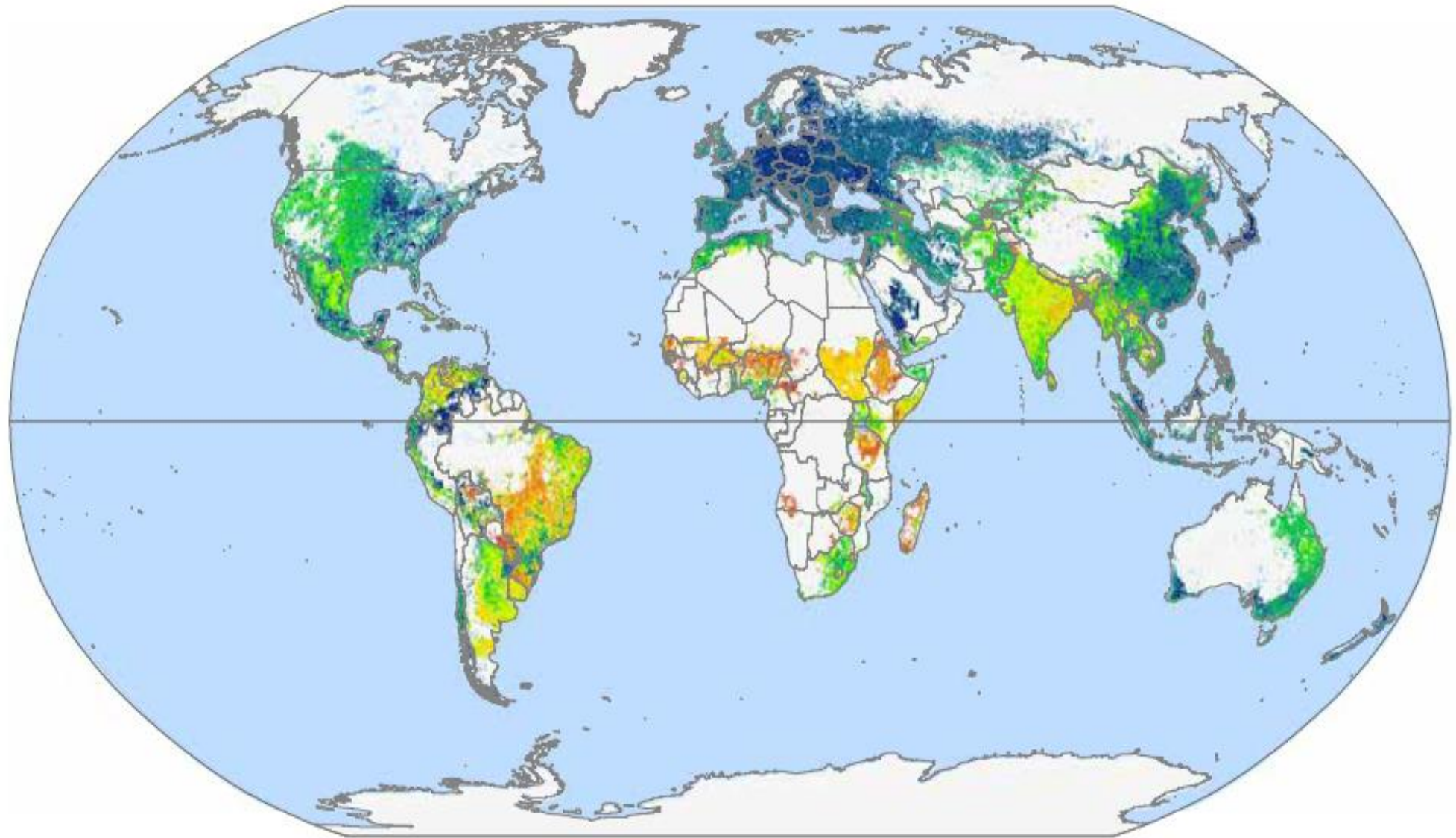
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People need to eat,  
we grow food efficiently,  
is there a problem ?



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**Kg of CO<sub>2</sub> equivalent per kg of edible protein**

< 50

100-125

200-250

> 350

50-75

125-150

250-300

Protein production < 75 kg per square km

75-100

150-200

300-350

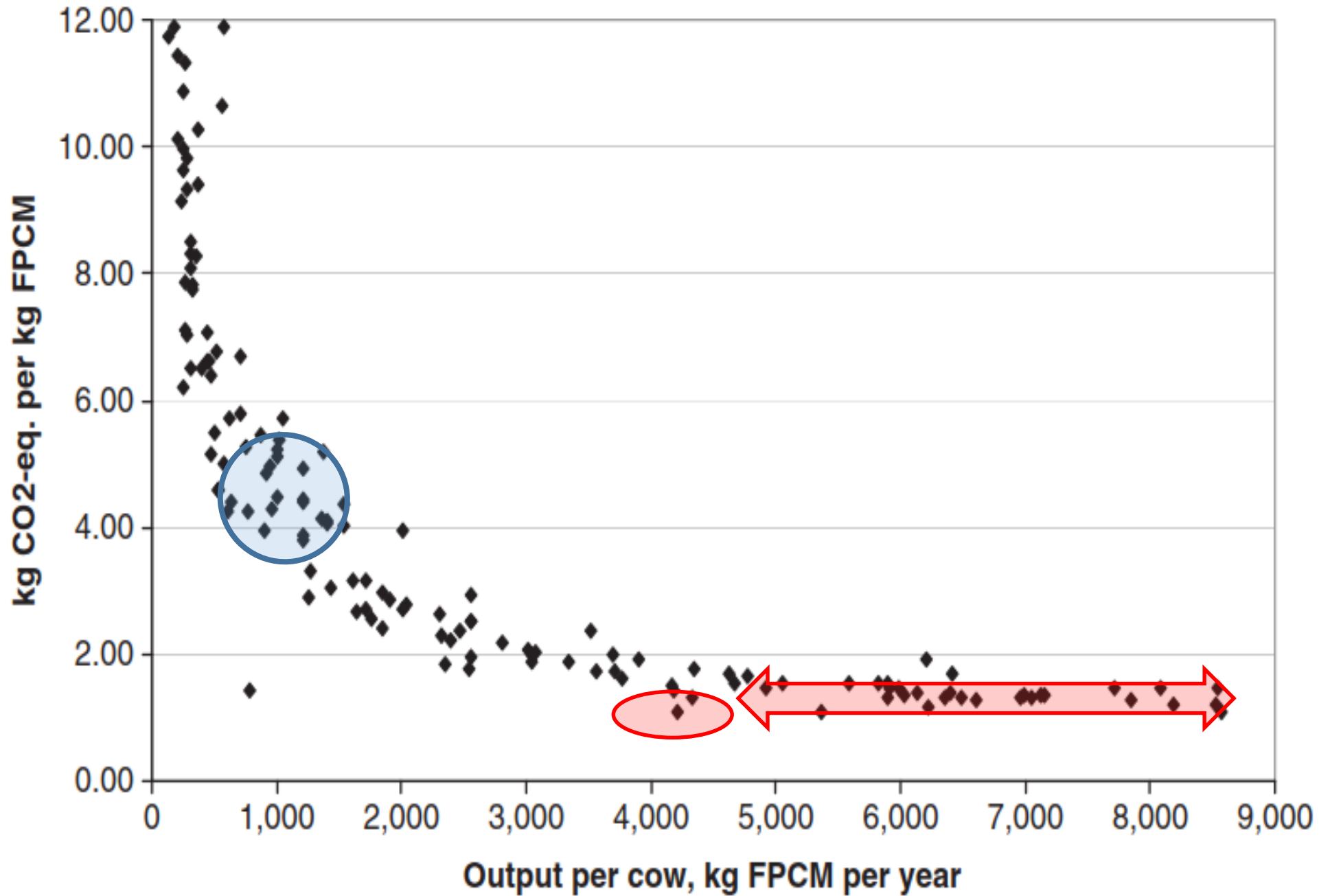
*Providing knowledge, technologies & practices to  
grow agriculture's ability to create wealth for  
New Zealand in a carbon-constrained world*

(Gerber et al., 2013)



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If you contribute  
to a problem, but could change:  
why keep doing it ?





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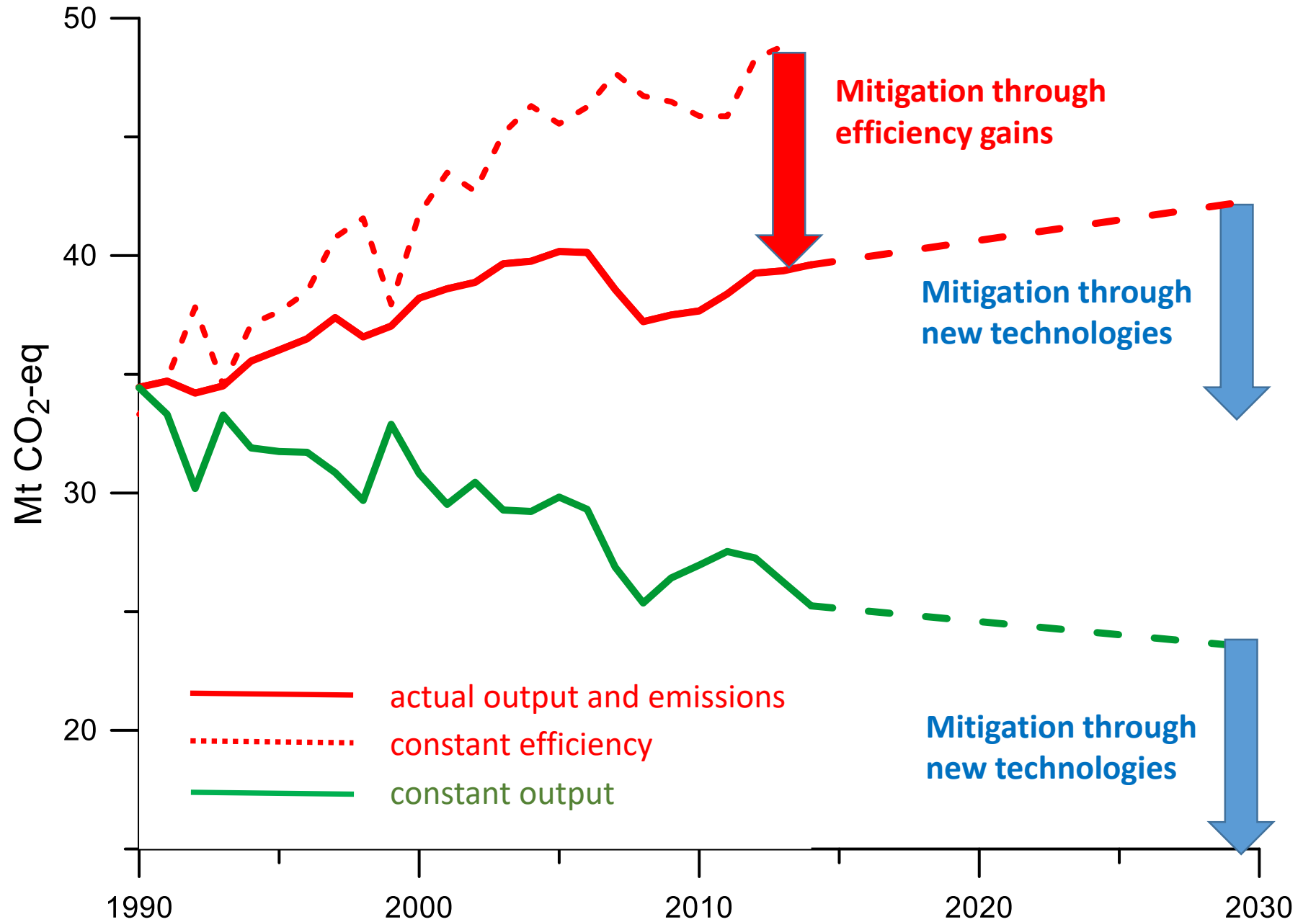
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- 1) Productivity
- 2) New Technology / Practice
- 3) Output / Land-use change



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All change is painful  
without shared reasons or goals.  
Talk, listen, decide.

# Thank you !

The NZAGRC is a partnership of nine New Zealand organisations, dedicated to providing knowledge, technologies and practices to grow agriculture's ability to create wealth for New Zealand in a carbon-constrained world



Disclaimer: any views expressed in this presentation are my own and not necessarily those of NZAGRC partners individually nor collectively