

The Carbon Challenge
A quick summary of the book

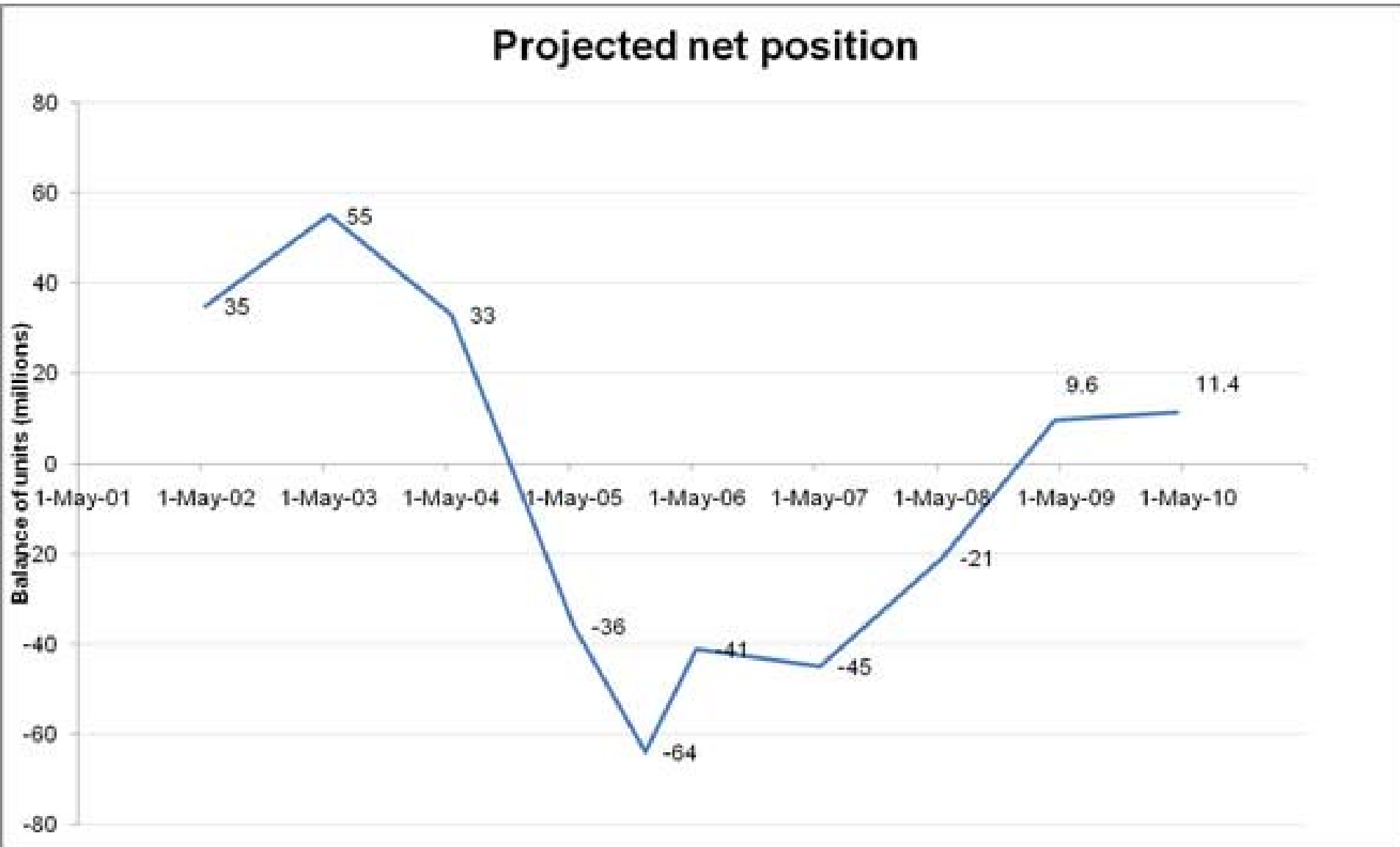
Geoff Bertram

17 August 2010

Table 2.1: Key Figures from Projected Kyoto Accounts for CP1
Official Projections as at May 2009 (*Carbon Challenge* p.24)

		Five-year total (Mt)	2010 update
	<div style="border: 2px solid red; padding: 5px;"> <div style="border: 2px solid blue; padding: 2px;"> The 2010 updates don't change the essential story. </div> This is the Kyoto overshoot that is already in place. </div>		
1	1990 gross emissions (these determine the Assigned Amount for CP1, 2008–2012)	309.6	309.6
2	Projected CP1 gross emissions	378.2	370.9
3	Assigned Amount Units committed to “Projects to Reduce Emissions”	6.8	7.2
4	Assigned Amount Units still held by NZ government: (1) minus (3)	302.8	302.4
5	Excess of projected gross emissions over 1990 level: (2) minus (1)	68.6	61.3
6	Excess of projected gross emissions over Assigned Amount Units still held: (2) minus (4)	75.4	68.5
7	Projected deforestation emissions	7.3	9.2
8	Projected excess including deforestation: (6) plus (7)	82.7	77.7
9	Projected absorption by Kyoto forests	92.3	89.1
10	Overall balance for CP1: (9) minus (8)	9.6	11.4

The MfE website steers you to this:

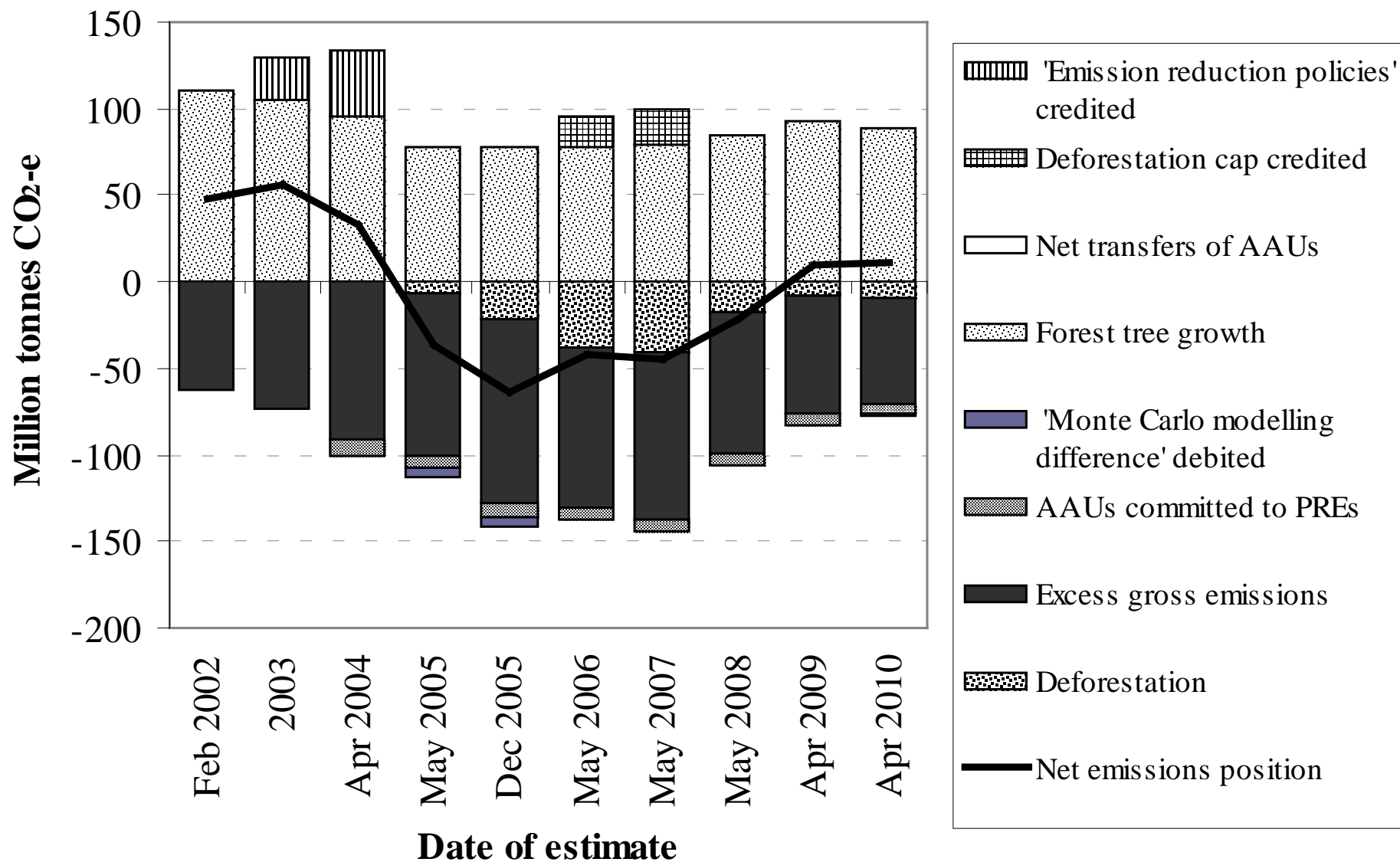


<http://www.mfe.govt.nz/issues/climate/greenhouse-gas-emissions/net-position/history.html>

- The Government story is that forest growth saves us from the need to deal with gross emissions
- Here's the "offset" story treating crop-forest growth as disposable carbon income:

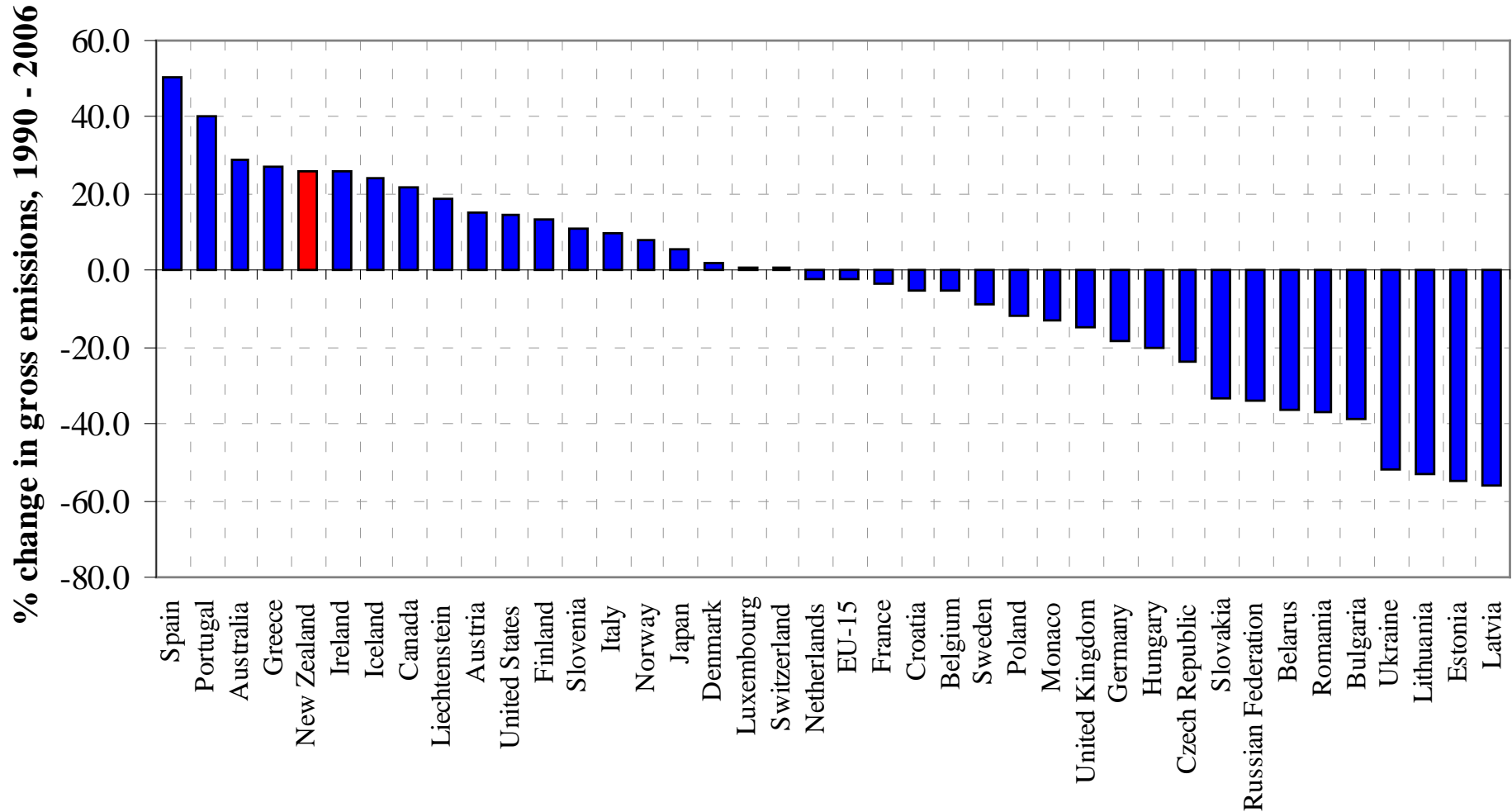
New Zealand's Changing Kyoto Accounts

Million tonnes of CO₂ equivalent projected for 2008-2012



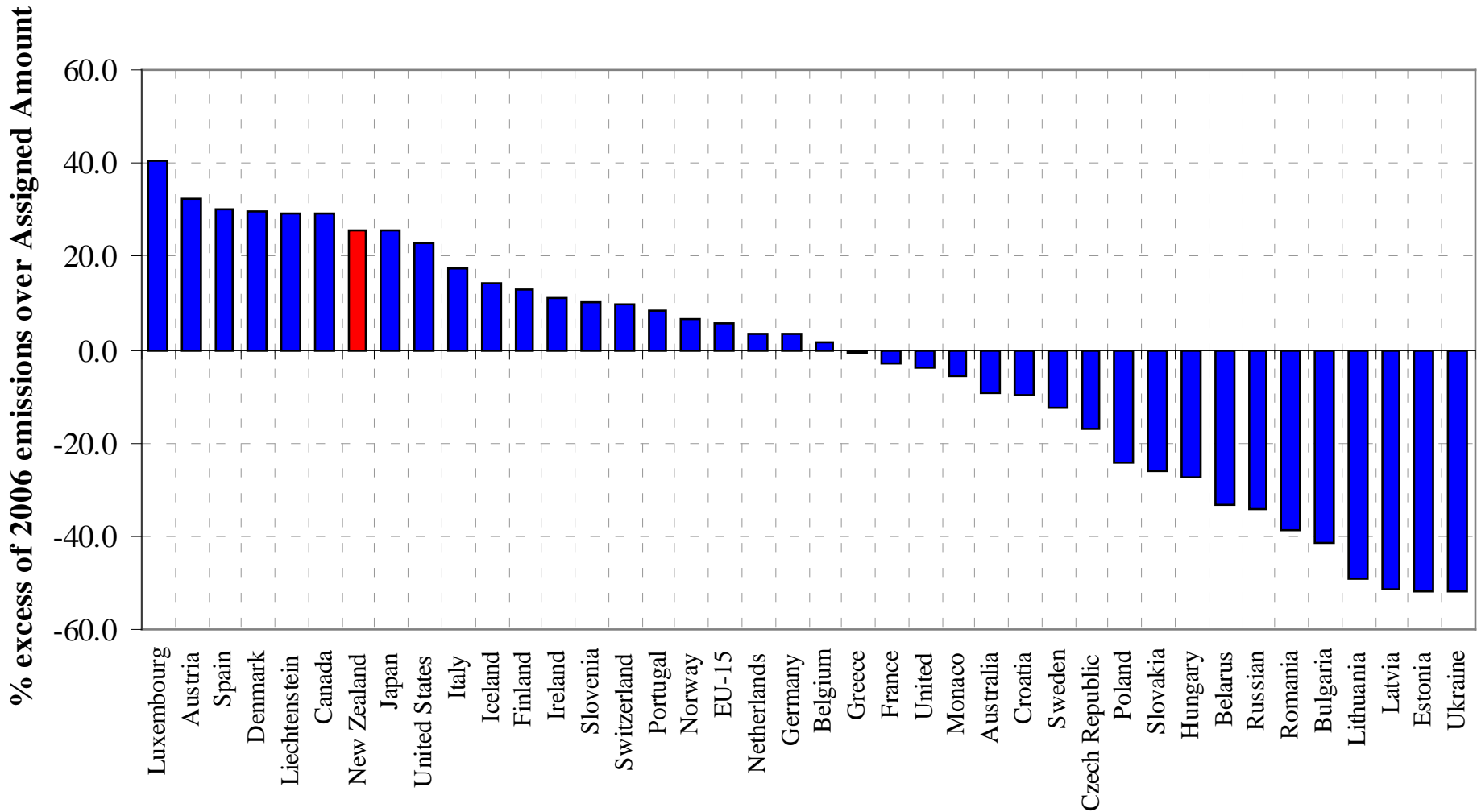
How does New Zealand's gross emissions performance rank internationally? Not well

Advanced economies: change in gross emissions since 1990

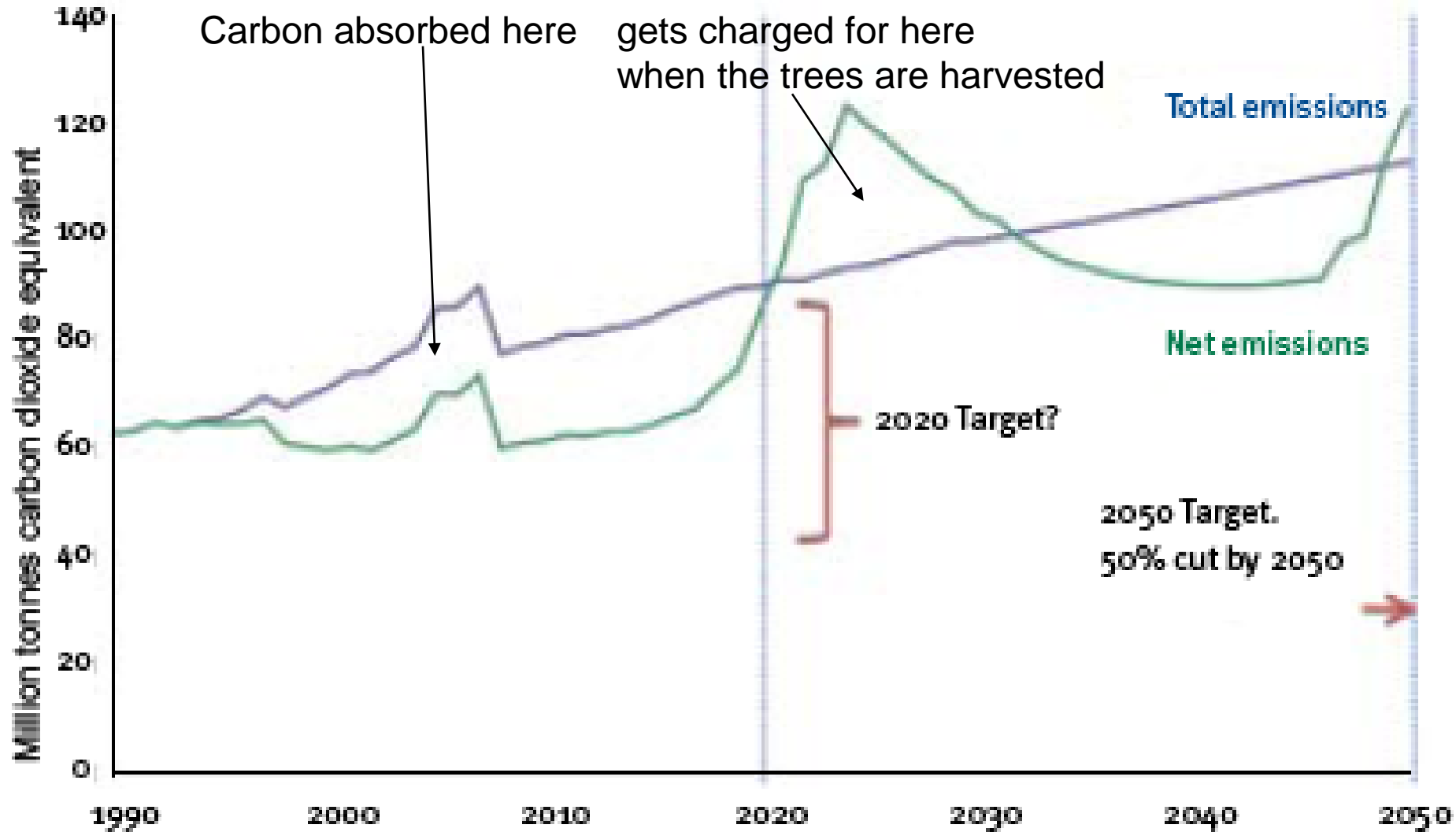


Nor in terms of the commitment undertaken at Kyoto, so far as the gross emissions record goes

Performance against Kyoto targets, in gross terms



Doesn't crop forestry save us by "offsetting" those excess gross emissions? No, it just defers the pain



MfE's "Fifth National Communication" of December 2009 p.97:

Figure 5.8: Removals by forestry under different assumptions for harvesting rates for pre-1990 forests and post 1989 forests.

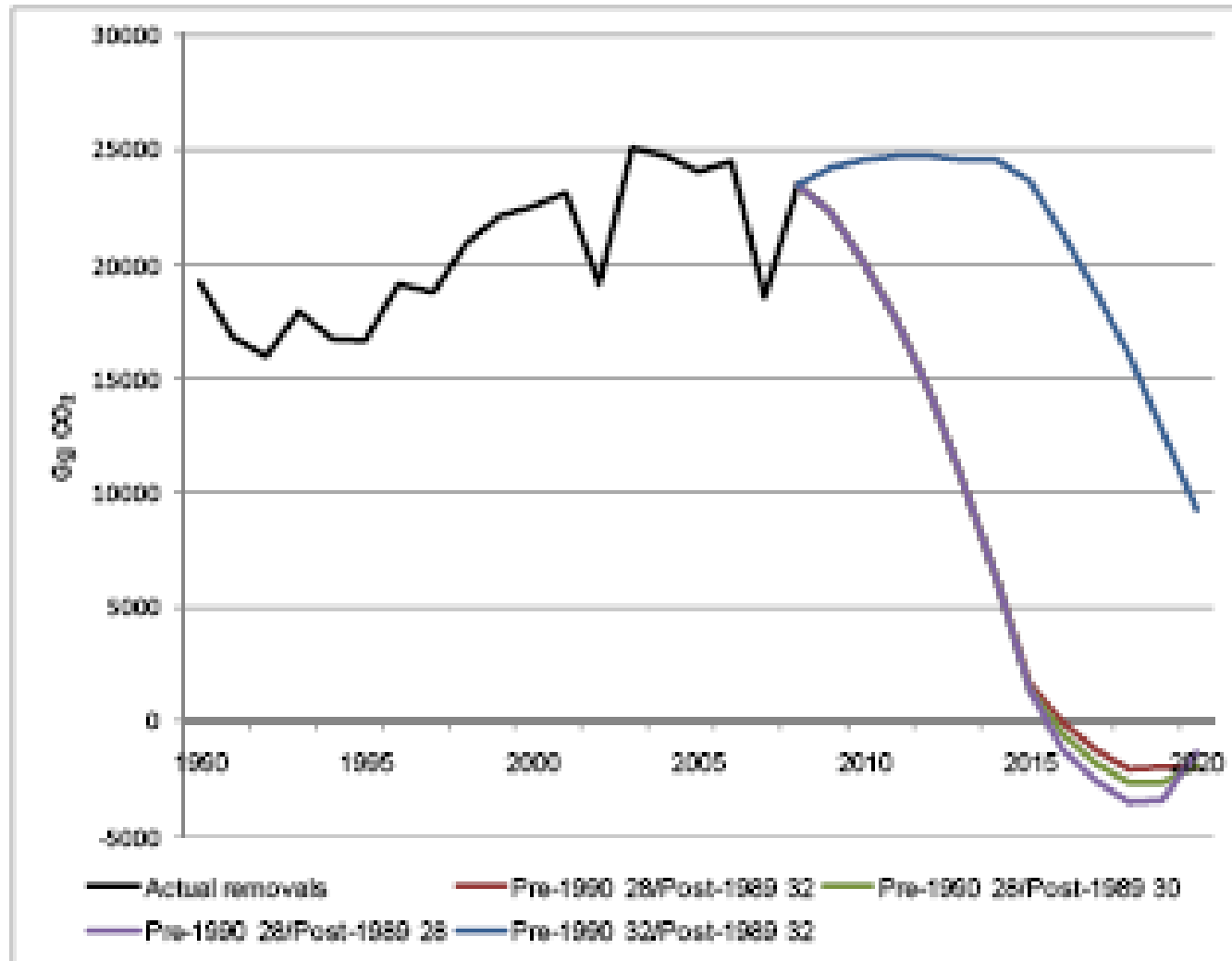
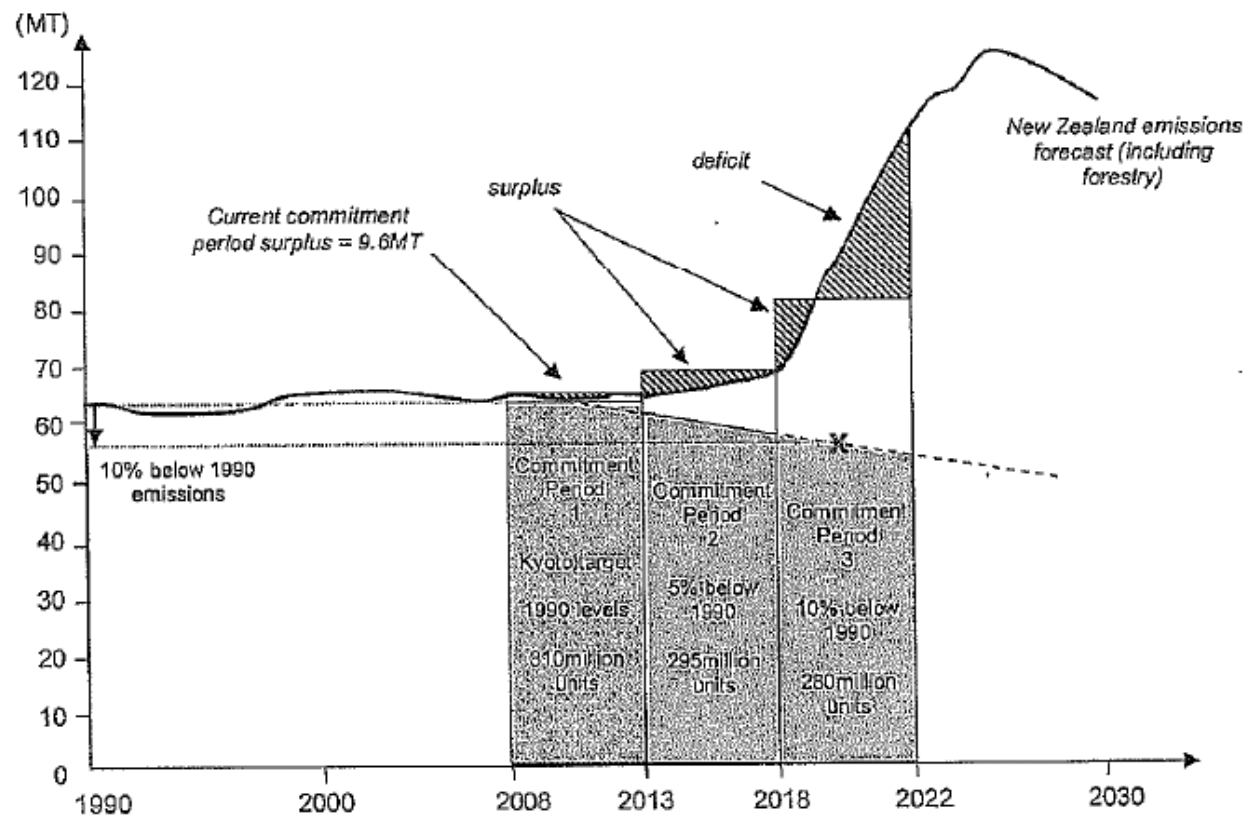


Figure 1: an illustrative example of the factors which determine the Crown's deficit/surplus



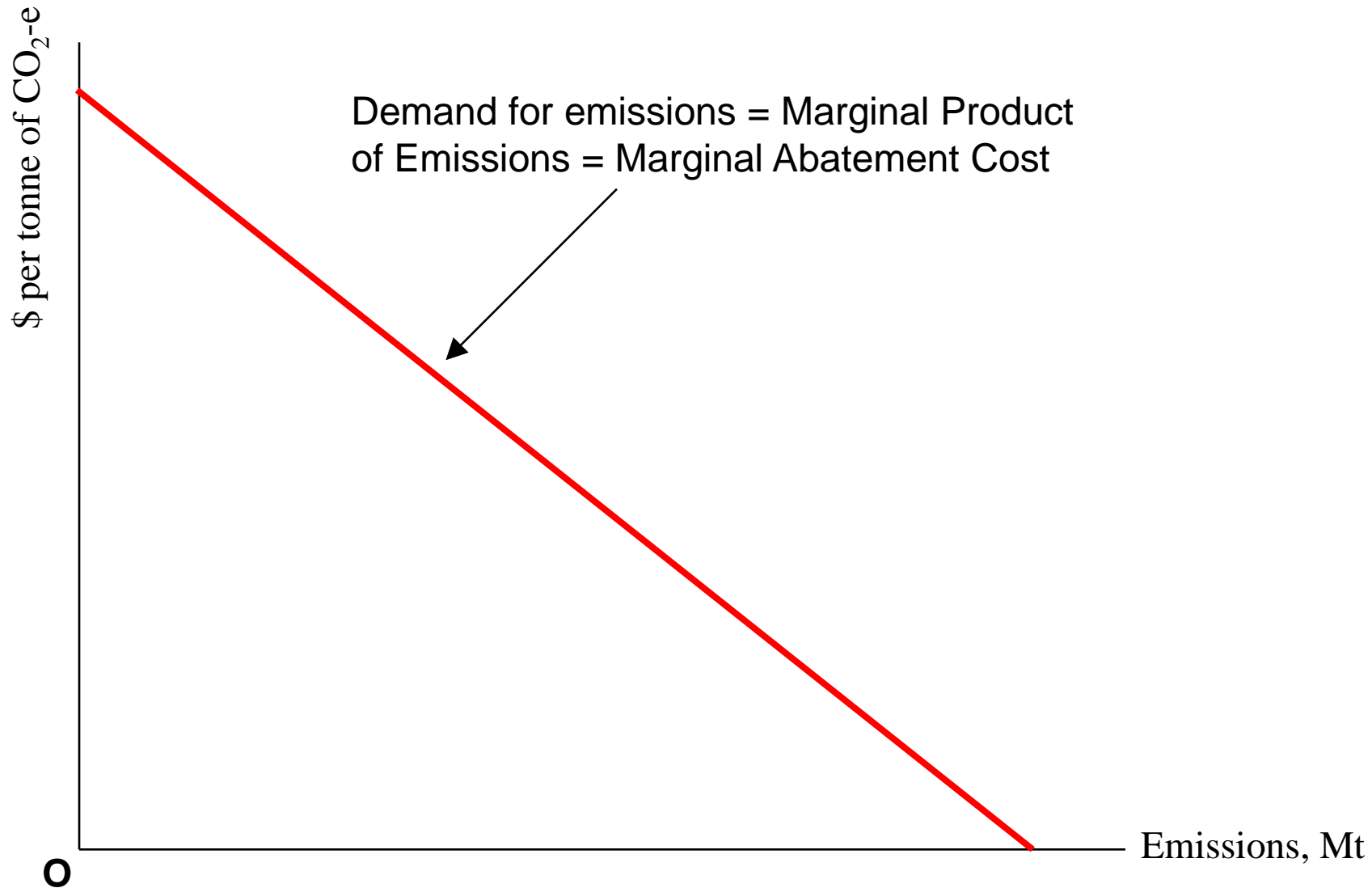
Treasury's other chart
Carbon Challenge p.115

An illustrative 2020 target for New Zealand of 10% below 1990	X
The units received by the Crown from the UN in two 5-year commitment periods	[Stippled box]
The additional units received by the Crown from forestry and the ETS (illustrative)	[White box]
Total emissions in New Zealand under business-as-usual (including forestry)	[Solid line]
The Crown's surplus or deficit in each commitment period	[Hatched box]
The units the Crown received in the first commitment period of the Kyoto Protocol	[Cross-hatched box]

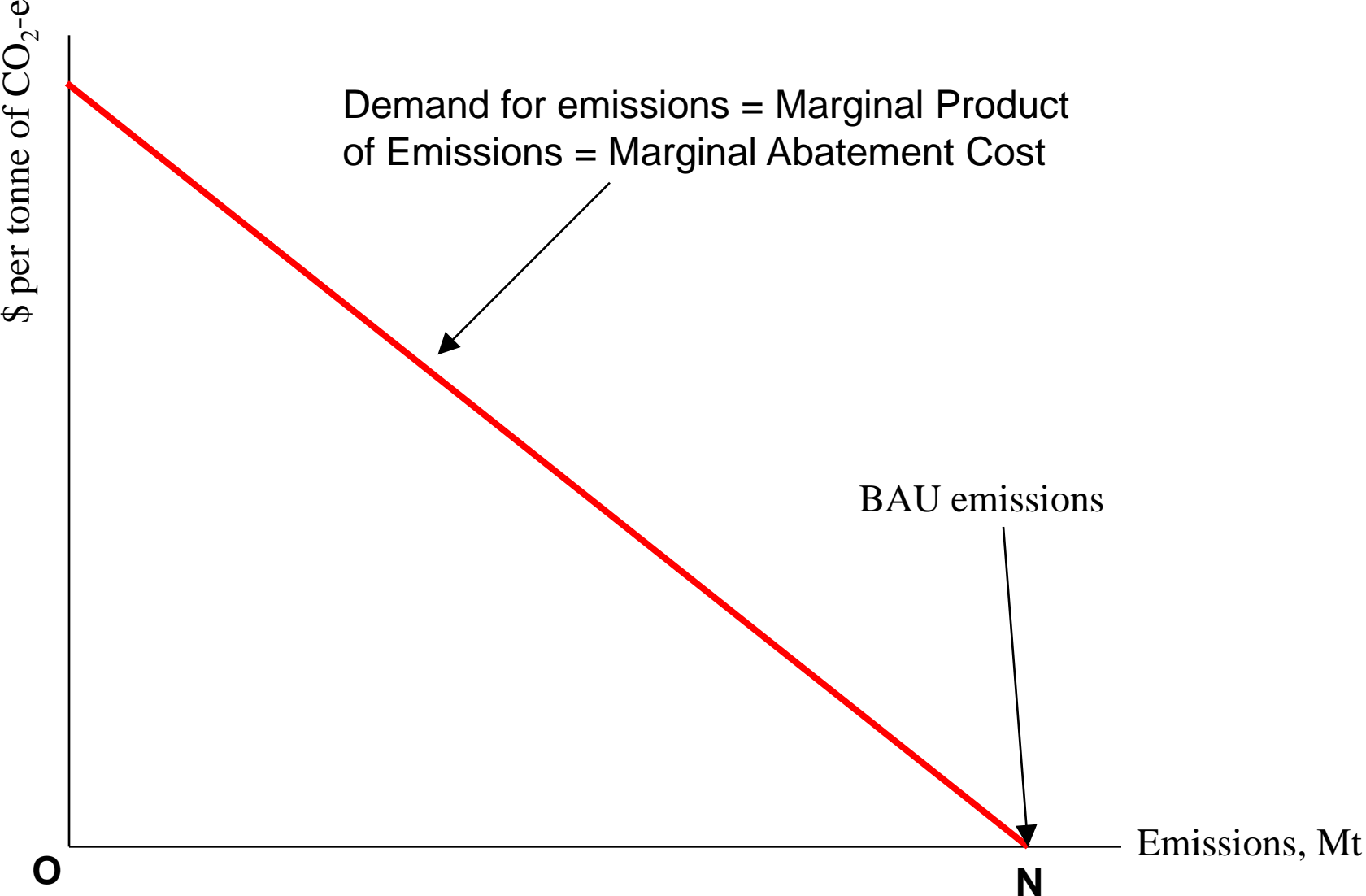
So what is the ETS?

- Not cap-and-trade despite the labeling. There is no cap, hence no 'fulcrum' for the market mechanism to produce the least-cost emission reductions
- Not a carbon tax because only a tiny fraction of the revenues extracted from consumers and businesses end up with Government
- Basically window-dressing to enable the New Zealand to sell to the world the idea that we are 'doing something'
- But behind the façade, there will be substantial wealth transfers

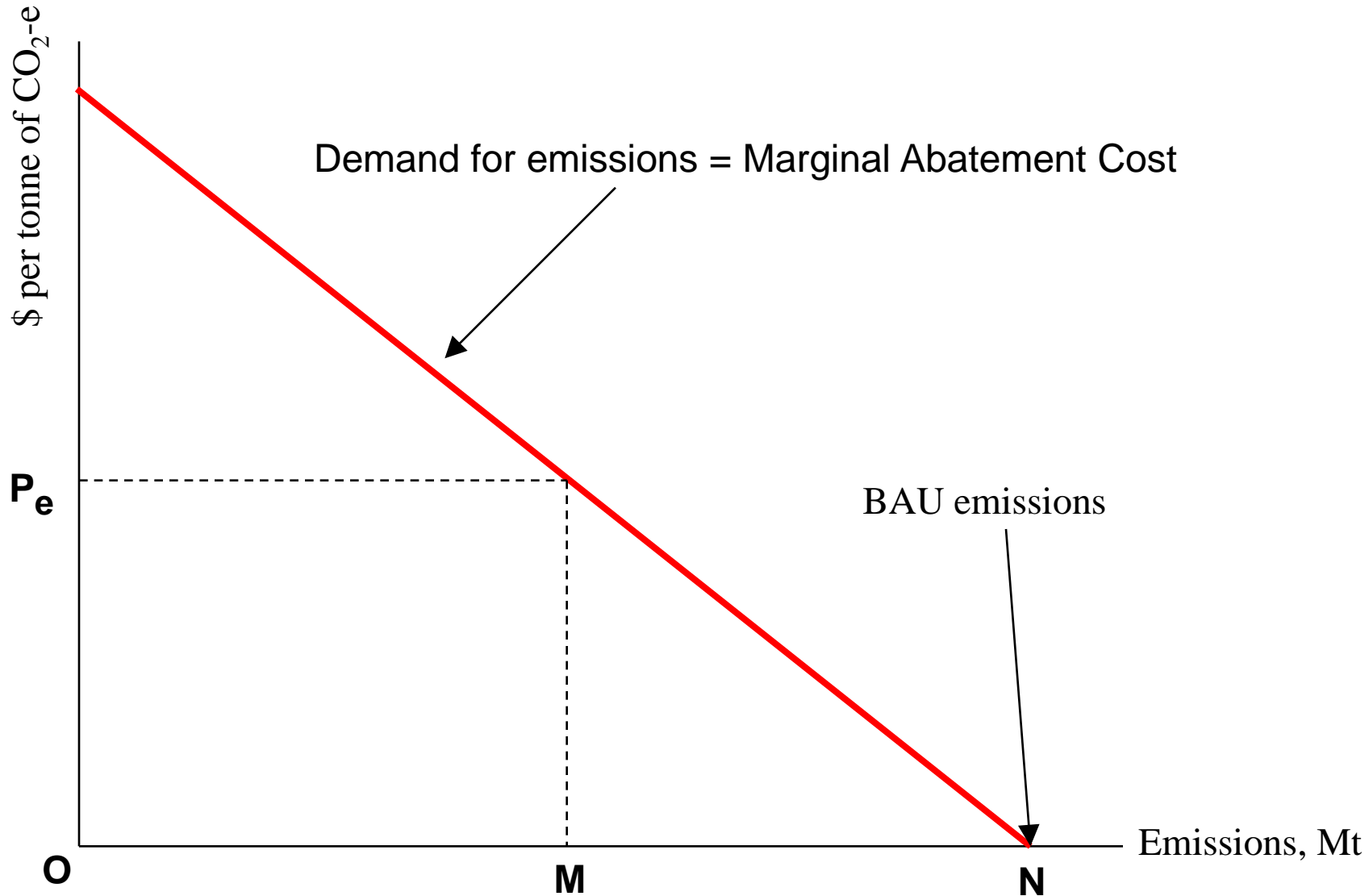
The “carbon market”



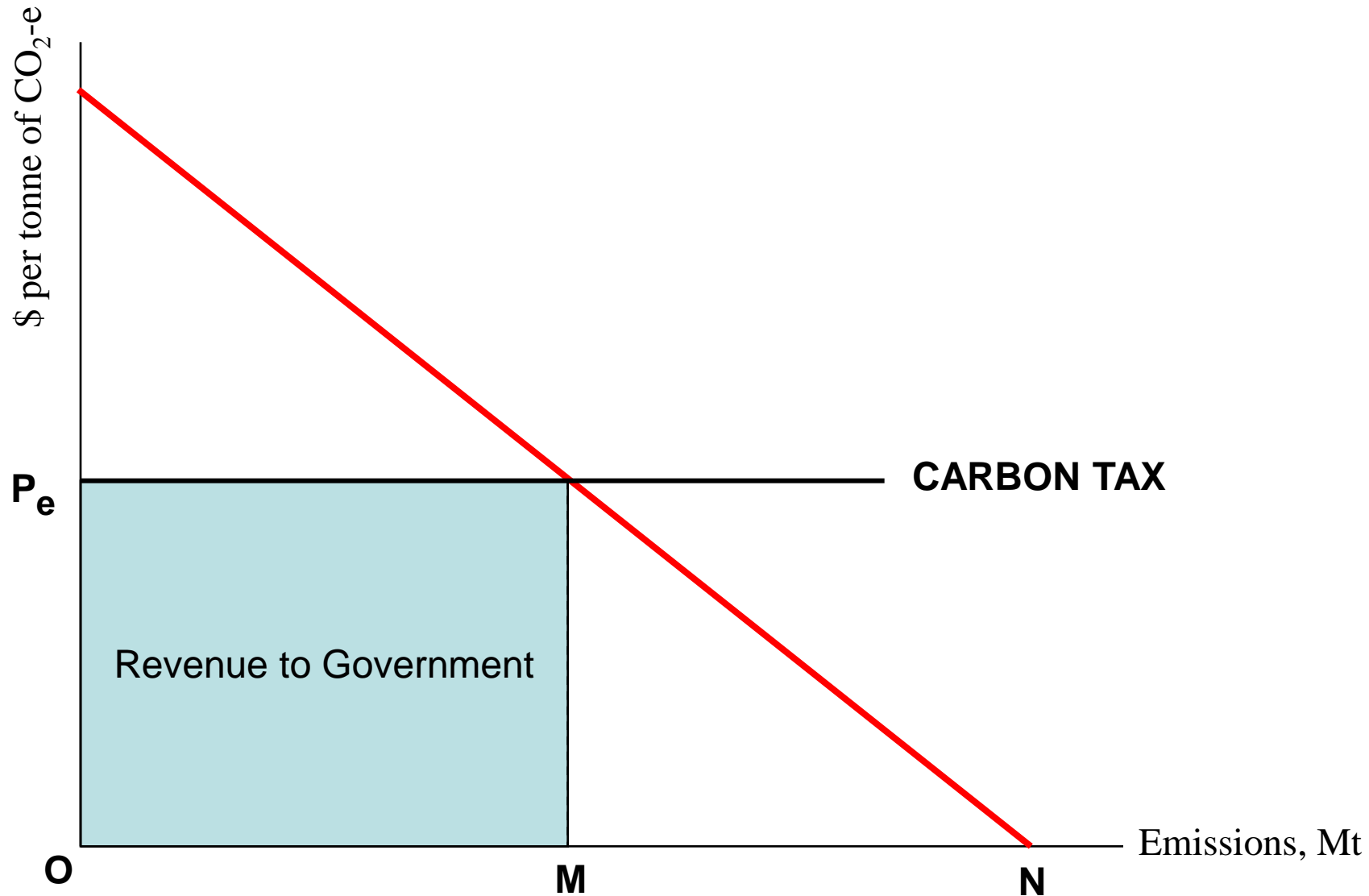
With emissions unpriced, the economy emits ON



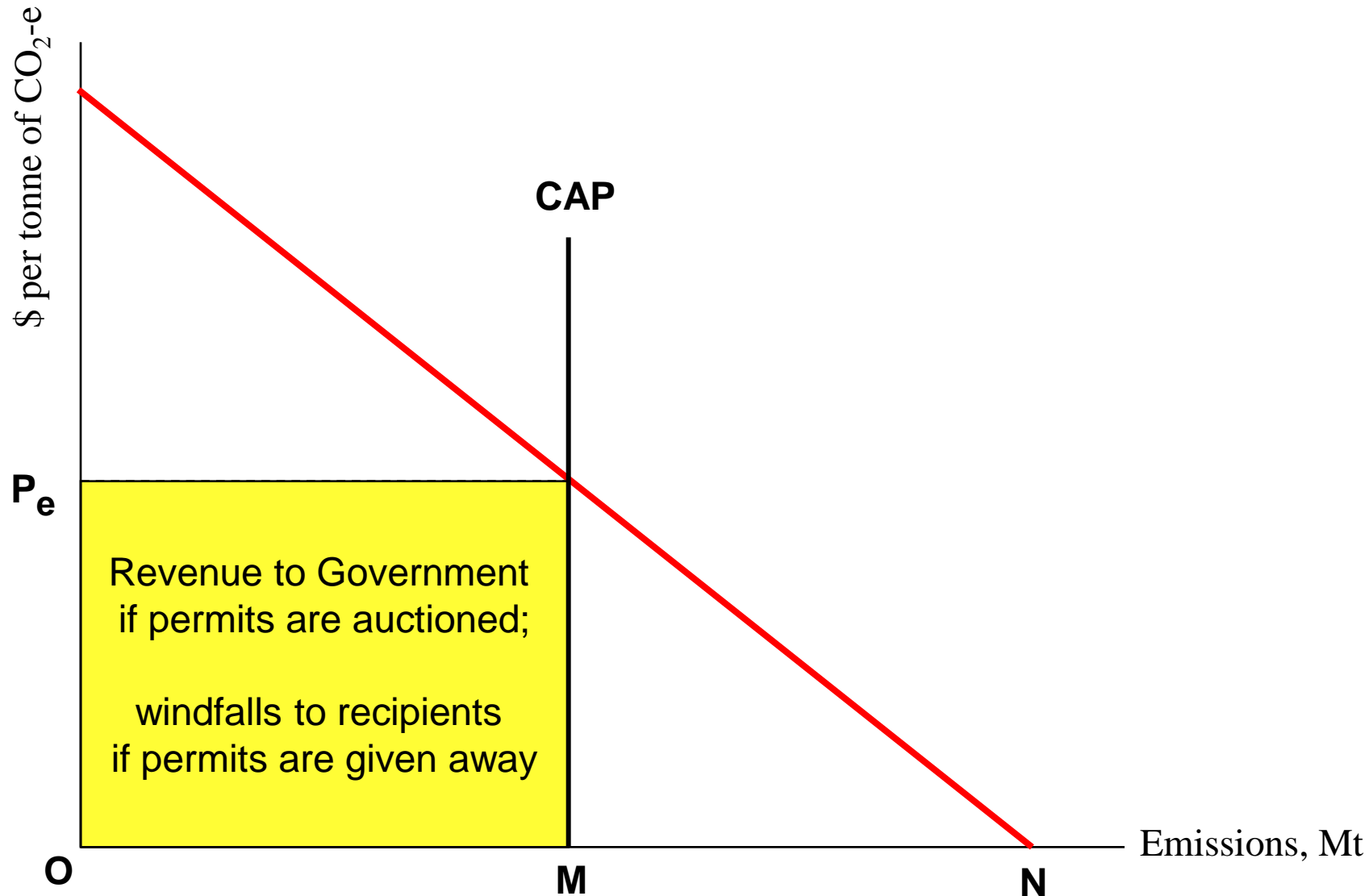
If the price of emissions rises to P_e then the quantity falls to OM and the emissions reduction (“abatement” or “mitigation”) is MN



One way of doing it: a carbon tax of P_e would lead to MN of abatement

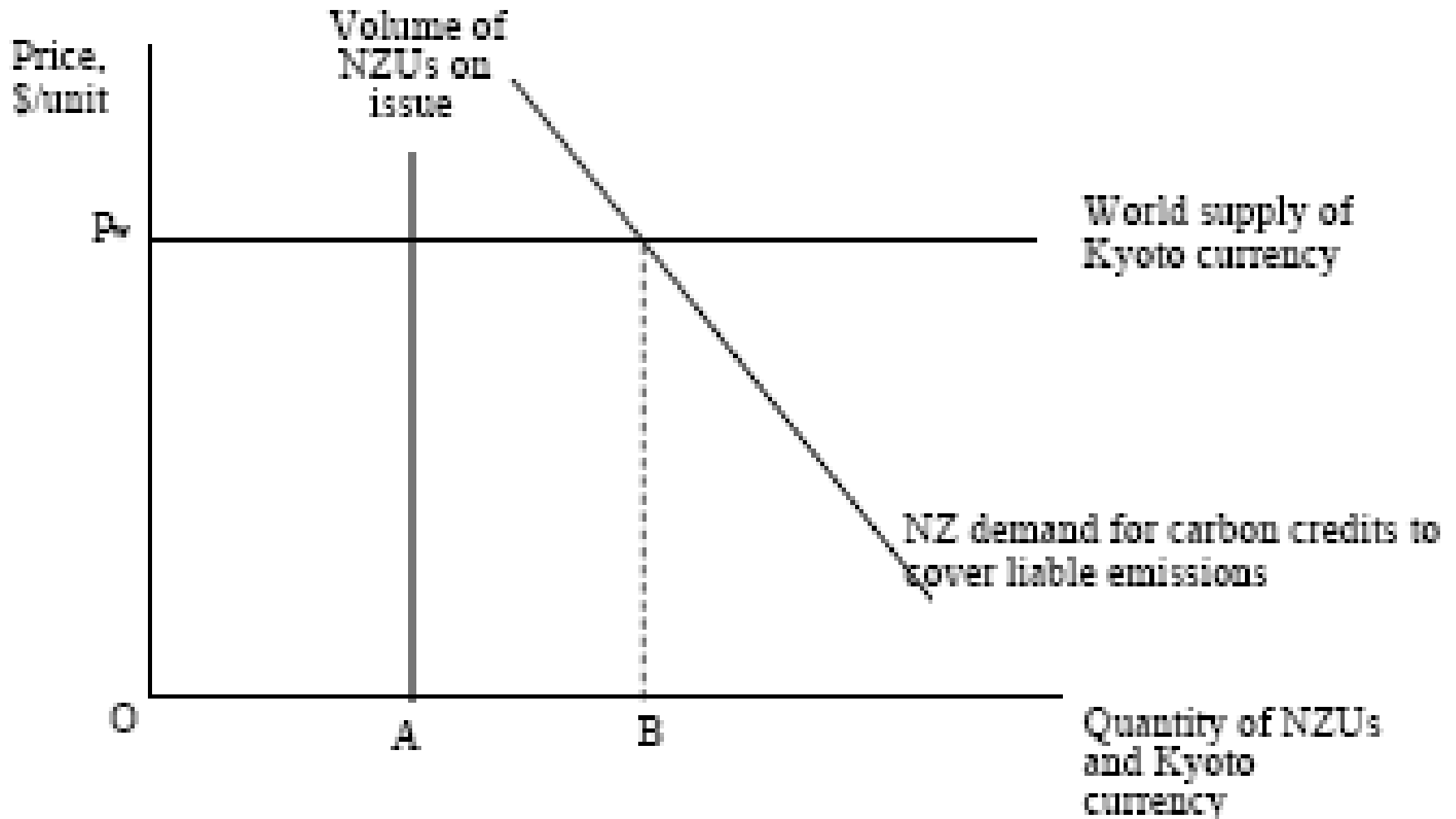


Or the Government could impose a cap at M , issue permits, allow trading, and the carbon price would be bid up to P_e



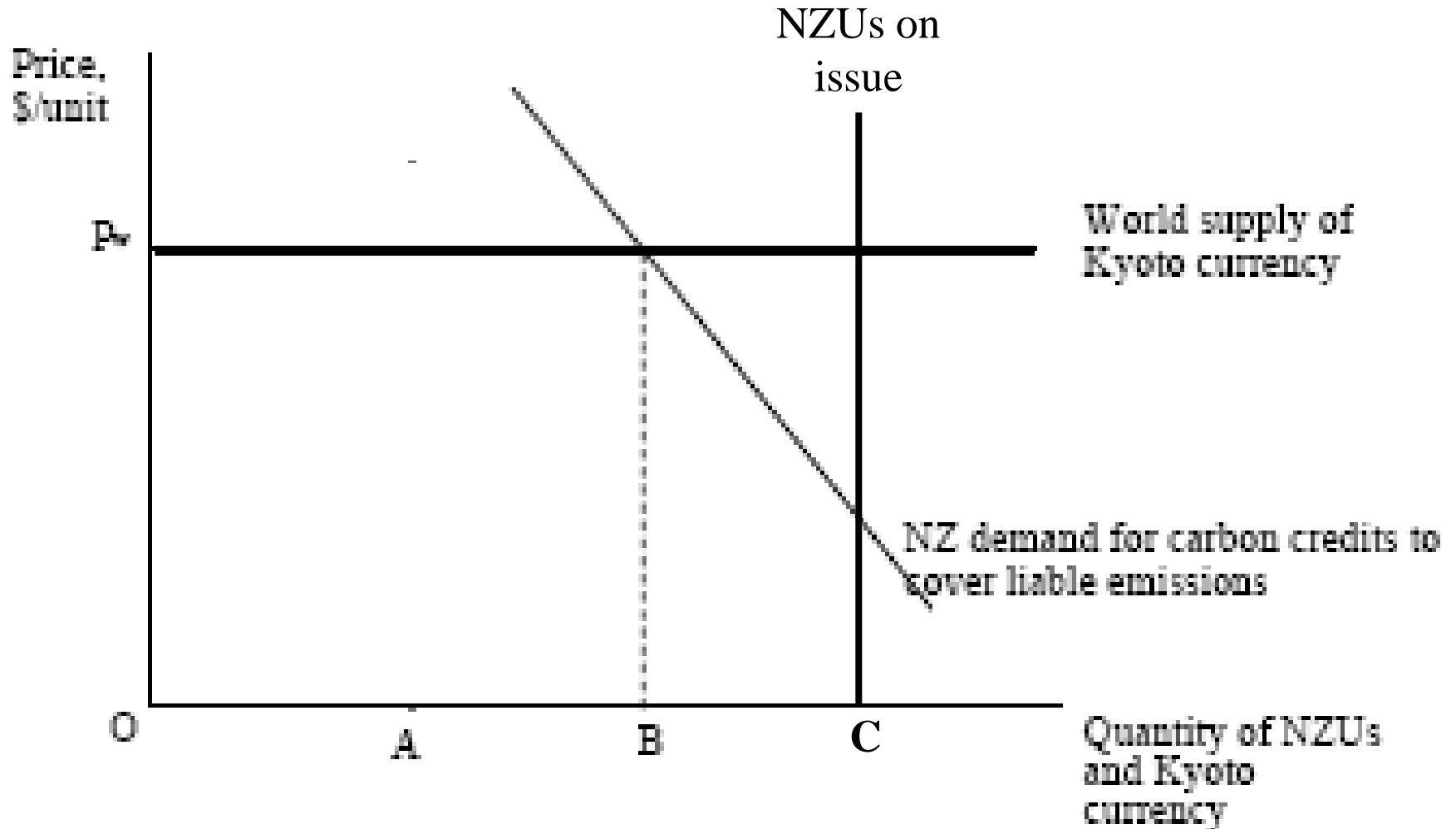
The ETS: The NZU price can't go above the world price of Kyoto credits even if the number issued leads to scarcity

Figure 7.1



But it could go lower if there is excess supply: like any paper currency, the NZU is subject to inflation/devaluation if over-issued

Figure 7.1 with over-issue

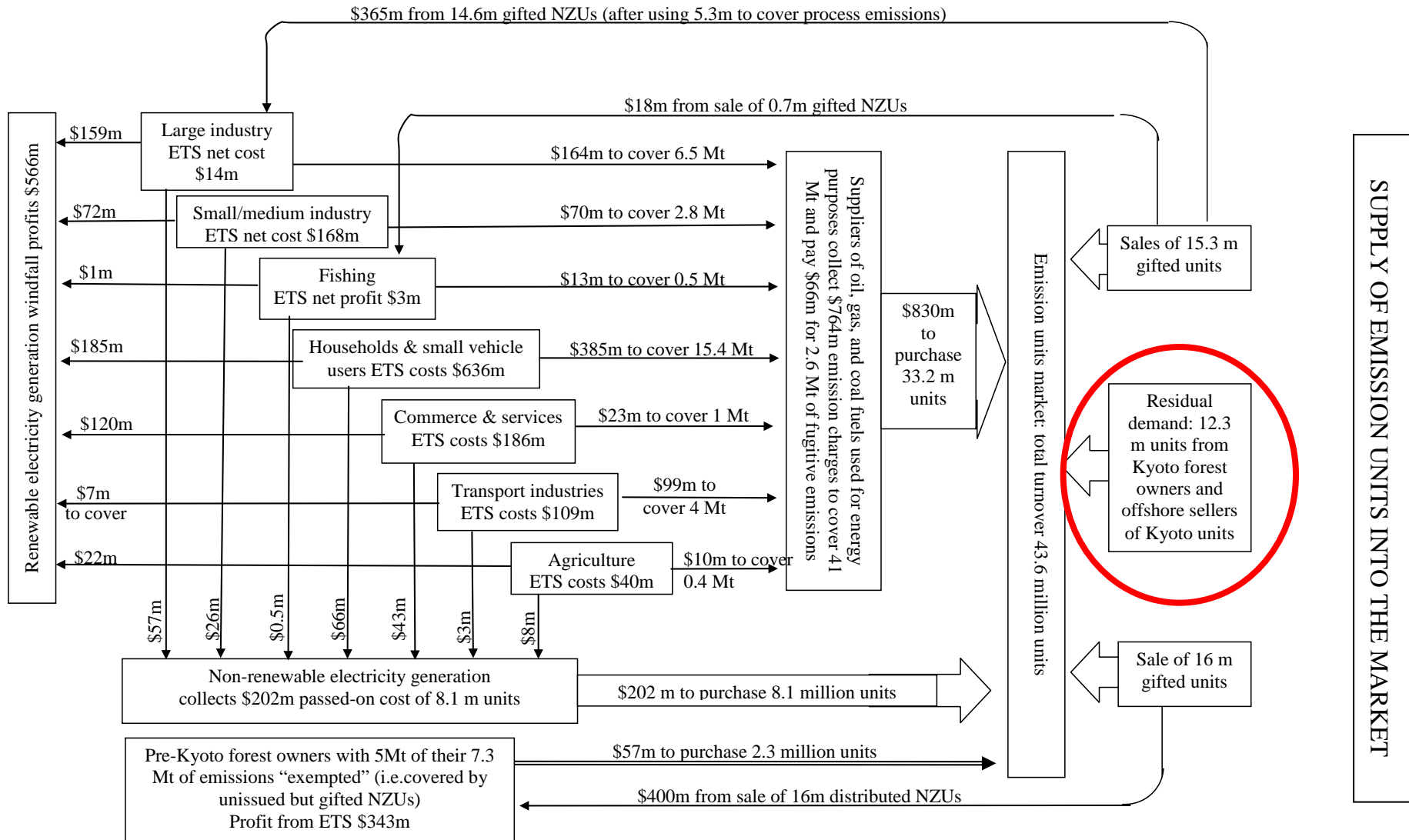


The supply-demand balance in the market for NZUs is therefore critical

	ETS-liable emissions (Mt)	Free NZUs grandfathered (million)	NZUs gifted to compensate for electricity price rise and fall in pre-Kyoto land value (million)	Total free allocation proposed in early 2010	Remaining liable emissions
Small road users (incl. businesses' own vehicle use)	14.13				14.13
Households, excl. private use of vehicles	3.94				3.94
Large industry	14.14	9.93	10	19.93	-5.79
Other industry	3.82				3.82
Transport	4.08				4.08
Commerce and services	2.60				2.60
Agriculture	0.69				0.69
Fishing	0.54	0.70		0.70	-0.16
Coal, oil and gas producers	2.60				2.65
Waste and solvents	0.0				0.00
Totals excluding deforestation	46.59	10.63	10	20.63	25.96
Forest owners (assumed all pre-Kyoto forests)	7.30	5.00	16	16.00	-13.70
Totals	53.90	15.60	26	36.63	12.30

Here is the net requirement for carbon units after allowing for all the free allocations to politically-noisy sectors

Figure 6.5: Flow Chart of Projected Payments Under the 2009 ETS

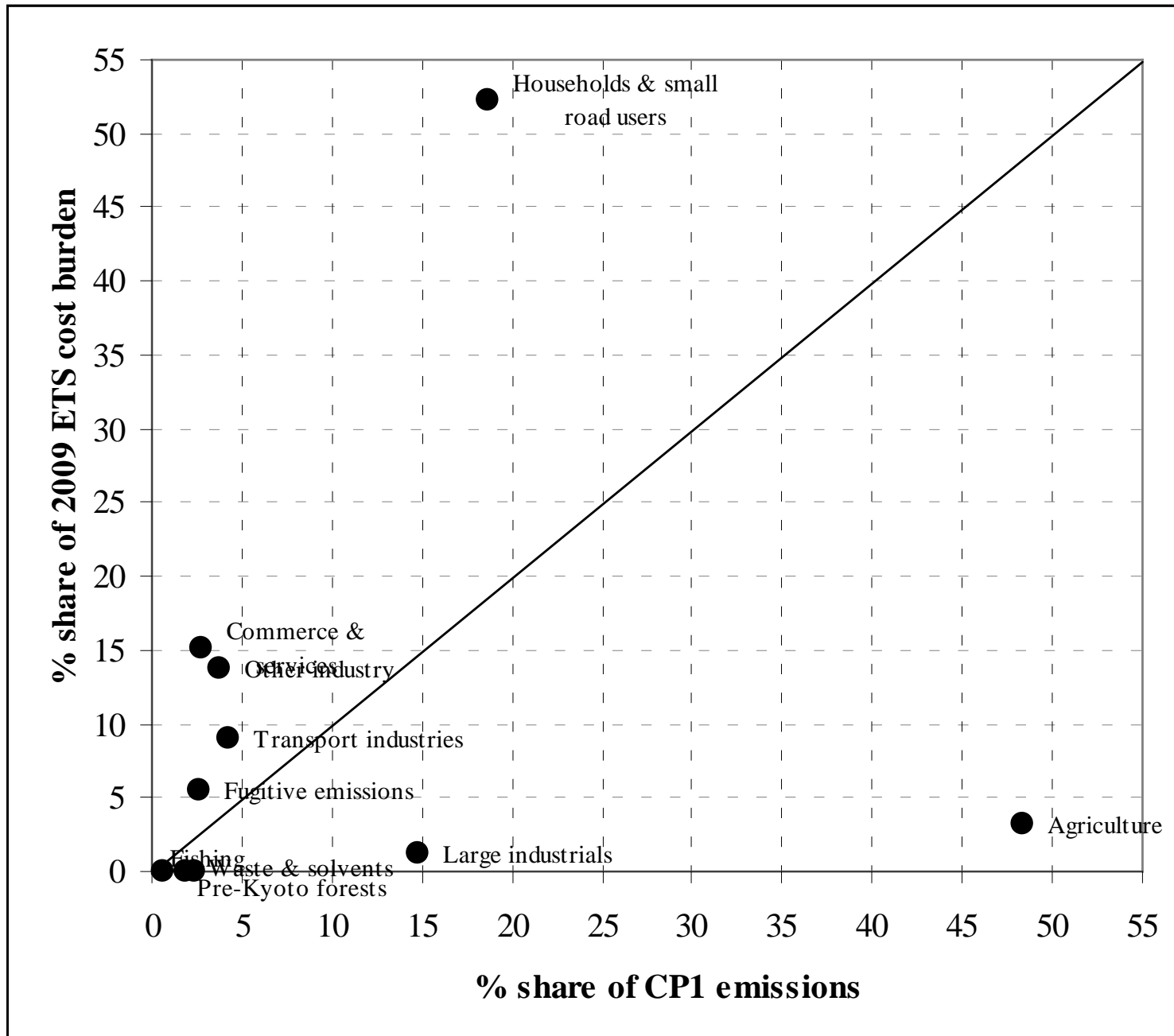


The NZU carries high risk of devaluation and inconvertibility

- As with any fixed exchange rate, the Government has to hold adequate “foreign exchange reserves” in AAUs
- The Commitment Period Reserve requires that these be at least 90% of the Assigned Amount
- So if Government’s registry holdings fall to the reserve threshold, the exchange window closes (or taxpayers fund offshore purchases to top up the balance)
- The NZU then becomes an inconvertible currency with its value set in a domestic market overhung by the power of big energy companies and the inability of politicians to resist running the printing press to pay off vested interests
- As a “store of value” it looks pretty dicey....

What will the ETS accomplish?

- Reduction of gross emissions by 0.6% or less during CP1 – not significantly different from zero (*Carbon Challenge* p.17)
- Burden of current payments for emissions (about 16% of the Kyoto liability for CP1) dumped onto households, road users and small businesses: 30% of emissions, >90% of payments (*Carbon Challenge* p.3)
- 84% of Kyoto liabilities for CP1 transferred to future taxpayers at unclear cost (several billion dollars anyway)(*Carbon Challenge* pp.17, 111-112).
- Subsidies of \$0.5 billion for large industry, \$1.1 billion for agriculture, \$54 million for waste and solvents (*Carbon Challenge* p.110)
- Windfall profits of \$0.6 billion for renewables-based electricity generators (incl SOEs)(*Carbon Challenge* p.102)



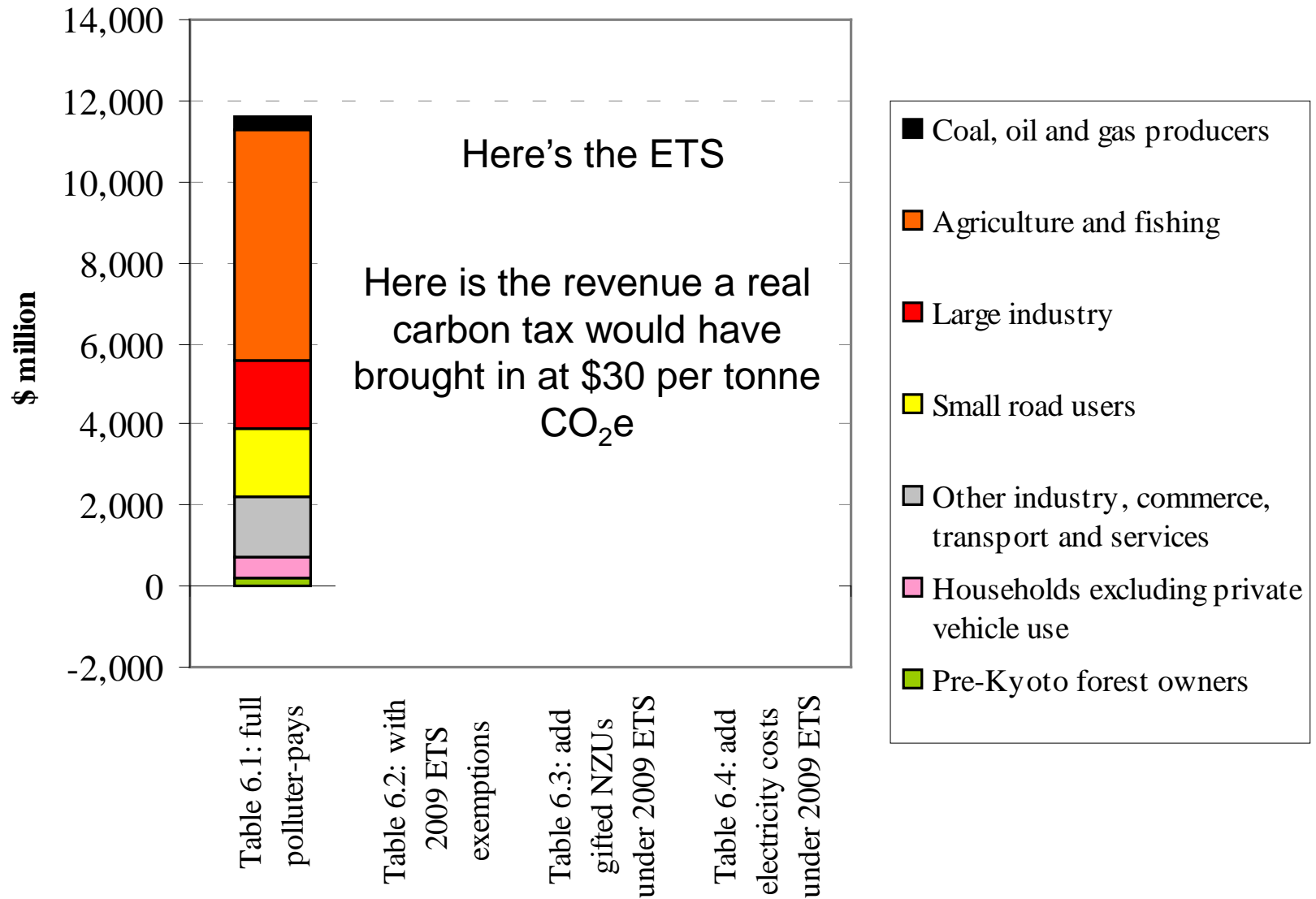
How did we get into this mess?

Mainly by talking big and doing nothing

Lack of progress on gross emissions because politicians have caved in repeatedly

- Targets have been progressively watered down:
 - 1990 target: to bring CO2 emissions 20% below the 1990 level by 2005
 - 1991 target: to bring CO2 emissions 20% below the 1990 level by 2000
 - 1992 target: bring emissions back to 1990 level (all GHGs included)
 - 1994 target: return net emissions to 1990 level by 2000
 - 1997 target: bring net emissions back to 1990 level over 2008-2012, with at least some reduction in gross emissions
 - 2002 target: “significant reductions on business-as-usual”
 - 2005 target: reduce the rate of growth of emissions and purchase credits offshore to cover emissions over 1990
 - 2008 target: reduce net emissions below business-as-usual

How carbon policy lost its bite



Subsidies, property rights, and the WTO rules

- The 2009 ETS legislation locks in 8-decade schedules for the phasing-out of free allocations
- It provides for large industry to get allocations based on emissions intensity, not absolute volumes
- Combined, these make New Zealand an emissions haven by providing incentives for dirty industry to relocate here from other Annex I countries (and elsewhere too)
- Long-term production subsidies to politically-selected corporate welfare recipients are a large bullseye painted on the economy's back once trading partners get their climate policies going

The post-2012 future is increasingly likely to be a period of trade wars over border carbon adjustments

- A joint WTO-UNEP working party report in 2009 foreshadowed the legitimacy of border measures to tax or ban imports from countries with relatively lax carbon charges
- New Zealand would fall behind the international standard very quickly if the EU, USA or China advance their legislation
- Taking comfort from the current paralysis in the US Congress is not good strategy for the longer term
- Note the terms of the various bills that came before the Congress in the past couple of years – Waxman-Markey, Cantrill-Collins, Kerry-Lieberman

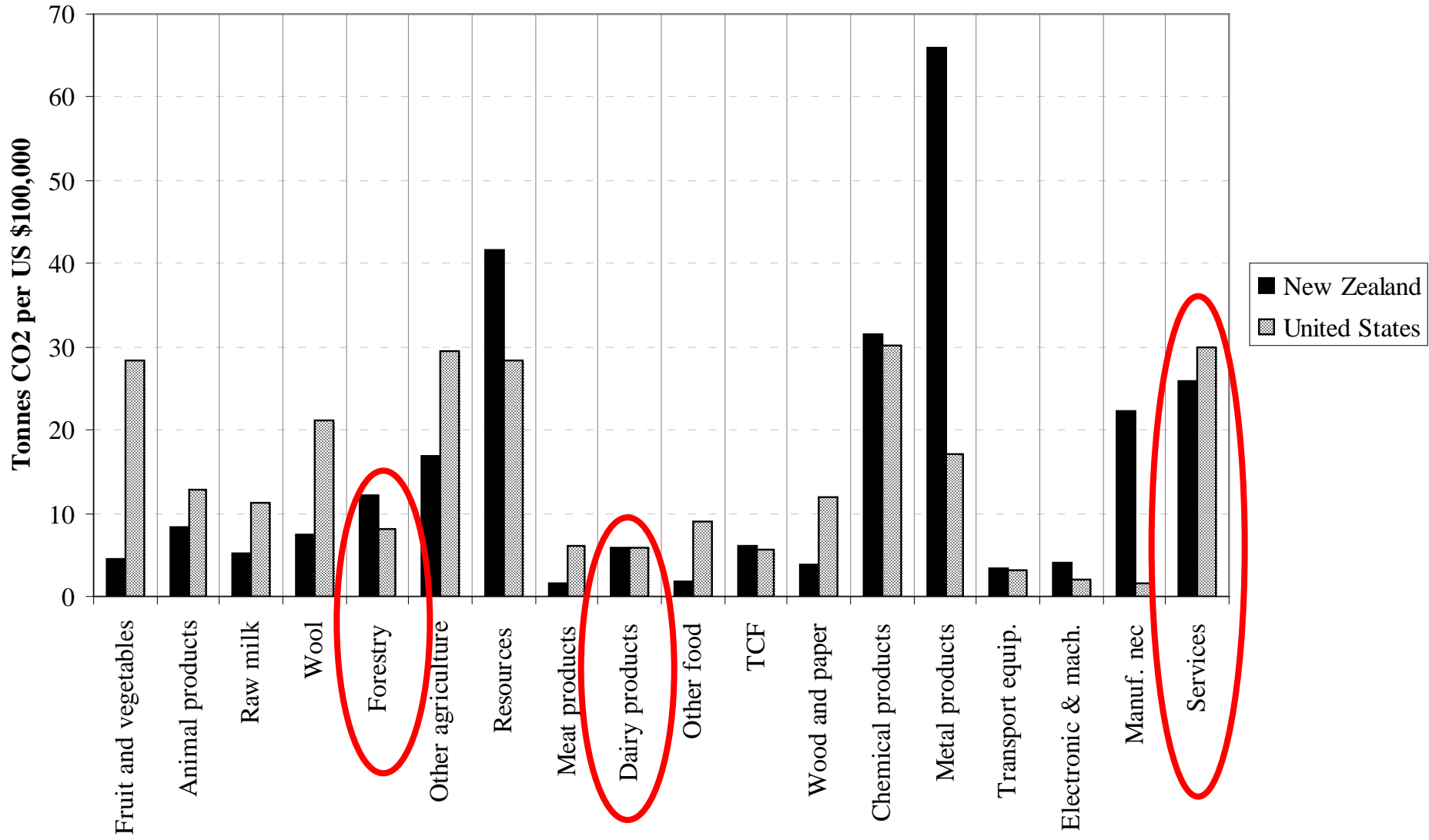
The Cantrill-Collins bill, for example

- would require emission permits to be presented for all imports to the US on the same basis as is required for domestic producers - consistent with GATT Article III
- would impose [potentially prohibitive] fees on imports of specified commodities to 'adjust' for their production process carbon, subject to the test that 'the country in which the commodity was produced does not impose comparable limits or fees on the use of fossil carbon'. The explicit intent of the fee arrangement is to offset 'the average additional cost per unit output for the [US] industry or economic sector due to disparate carbon limits among countries' – all consistent with GATT Article XX

Processes and production methods (PPN) are coming under scrutiny

- US Shrimp-Turtle case
- Carbon footprinting is coming
- Consumer gatekeepers will become more activist
- NZ runs a net emissions surplus – unlike the rest of Annex I, but like China
- At the level of individual products, NZ is not always lower-emissions-intensity

Figure 2: Emissions Intensity of Economic Sectors: NZ and US Compared



New Zealand could have positioned itself safely in this new international environment

- Instead it has chosen, in effect, to gamble on worldwide victory for the climate change denial lobby
- If the Government were serious about honouring its full commitments even under Kyoto, it would not have relied on crop forestry offsets as its sole solution
- If the Government were serious about protecting trade competitiveness and access in the long run it would not have adopted discriminatory production subsidies with an 80-year phaseout

With intensity-based production subsidies, a potentially inconvertible paper currency (the NZU), no serious bite on gross emissions, complete exemption till 2015 of the key abatement sector (agriculture), and billions of dollars of CP1 liabilities kicked into the future to be carried by the next generation of taxpayers, the ETS is not fit for purpose

The key principles

- Simplicity
- Clarity
- Effectiveness
- Universality
- Fairness
- Political sustainability
- Transparent accounting

It's back to the drawing board....