From the Antipodes: Climate Policy in New Zealand

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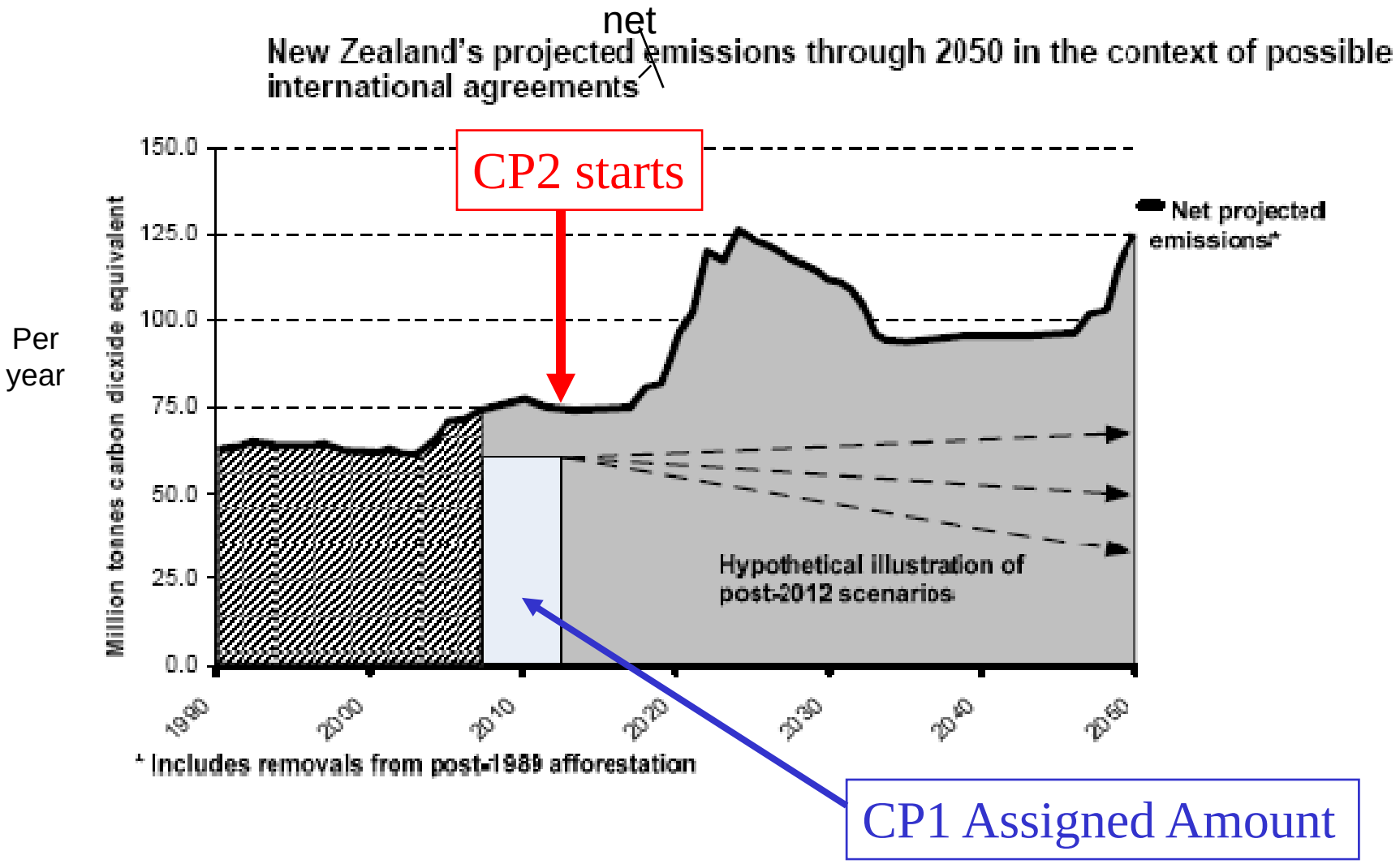
New Zealand has ‘talked the talk’…

- Signed up to the IPCC 1988-89
- Signed the Framework Convention on Climate Change 1992
- Signed the Kyoto Protocol 1997
- Agreed to a binding Kyoto target: net emissions 2007-2012 are to be no greater than gross emissions in 1990
- Ratified the Protocol 2002

… but it has not ‘walked the walk’ with any conviction

- Gross emissions are projected to be 25% above 1990 Kyoto base year levels for period 2008 to 2012
- That puts a huge burden on forestry sequestration to fill the gap
- Forestry credits will bring down the net liability significantly and may even achieve a tiny CP1 surplus
- But on gross emissions New Zealand ranks 3rd, 6th or 8th worst performer of the countries with Kyoto reduction obligations, depending on how these are measured

In 2013 the country will be at the top of an emissions ‘cliff’ relative to its likely target for CP2



Lack of progress on gross emissions because politicians have caved in repeatedly under intense lobbying pressures

- 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

- All proposals to introduce a carbon tax have been abandoned in the face of lobbying by large industry and agriculture

  - 1994: Government proposed a $10/tC tax, but a coalition of mining and industrial interests fought tenaciously and successfully to have the tax dropped and replaced by voluntary agreements between Government and individual firms, with a carbon tax to be introduced in 1997 if not progress

  - 1997: Officials proposed a tradeable carbon certificate scheme and a low-level carbon charge, but Government was diverted into the notion that forest sinks could do the whole job unaided; tax dropped again

  - 2001 Tax Review recommended a carbon charge; 2002 Government announced a carbon tax to be capped at $25/tCO2; in 2005 Government announced a $15/t tax to start April 2007. December 2005: tax abandoned for lack of a parliamentary majority in the face of relentless opposition from agriculture and large industry

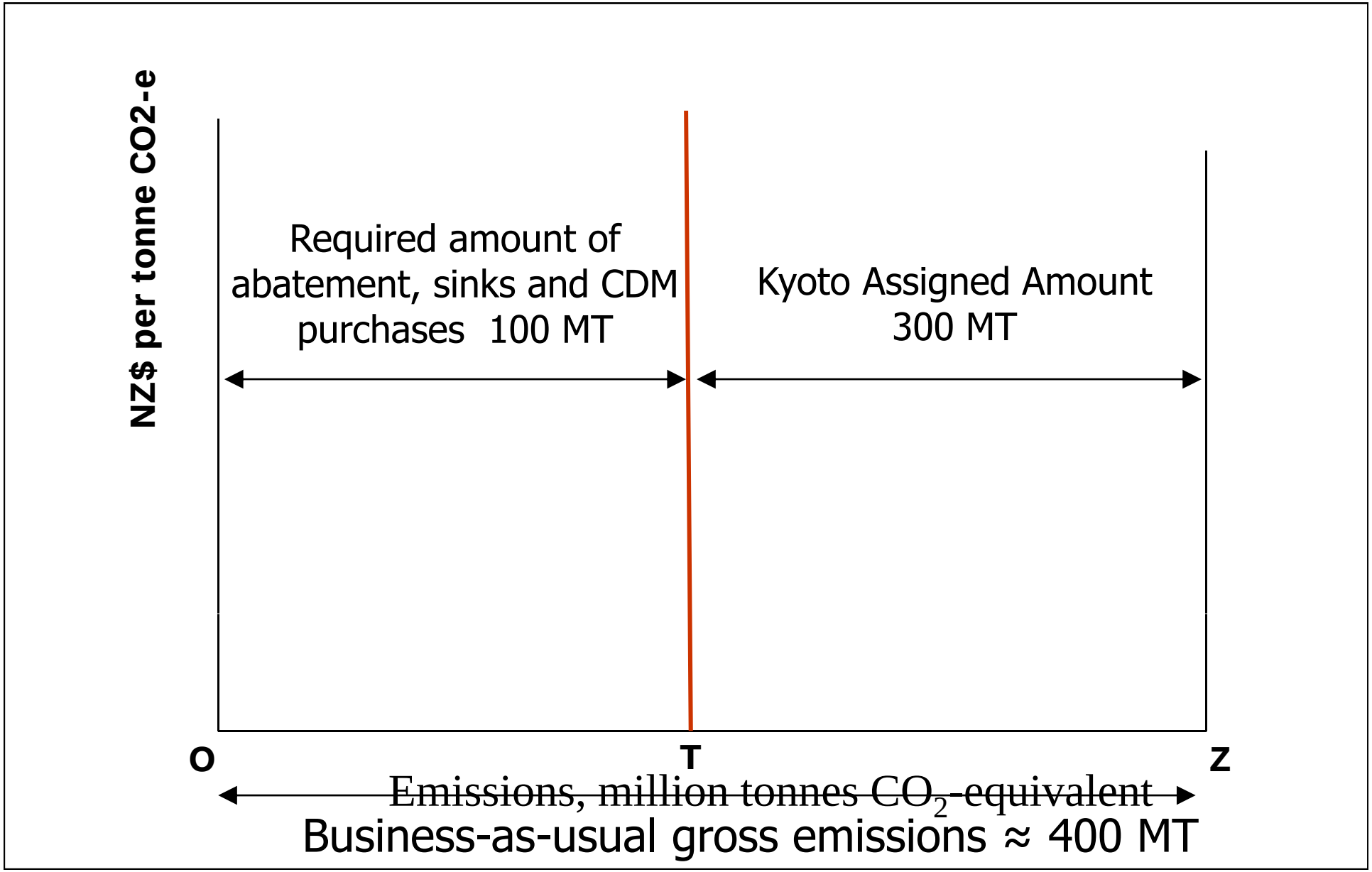
  - 2003 Government proposed a tax on methane emissions from agriculture to fund mitigation research. Successful nationwide campaign by the national farmers' organisation led to abandonment of the 'fart tax'

2007-2009 still exhibits political gridlock

- September 2007 Government published proposals for an “emissions trading scheme” which would exempt agriculture completely until 2013 and shield large industry from all costs
- December 2007 bill introduced to Parliament
- April-May 2008 Select Committee hearings were deluged with submissions from large industry claiming the scheme would cripple them and destroy the New Zealand economy
- May 2008 the Government announced a two-year deferral of the scheme’s application to liquid fuels, and a tax holiday for large industry until 2017
- June 2008 the main opposition party announced it would vote against the bill; passage now looks uncertain unless minor parties support
- Bill passed October 2008 one month before the Labout Government fell
- Now back before a Select Committee; the ACT Party (a key Government partner) remains in the climate-change denial camp

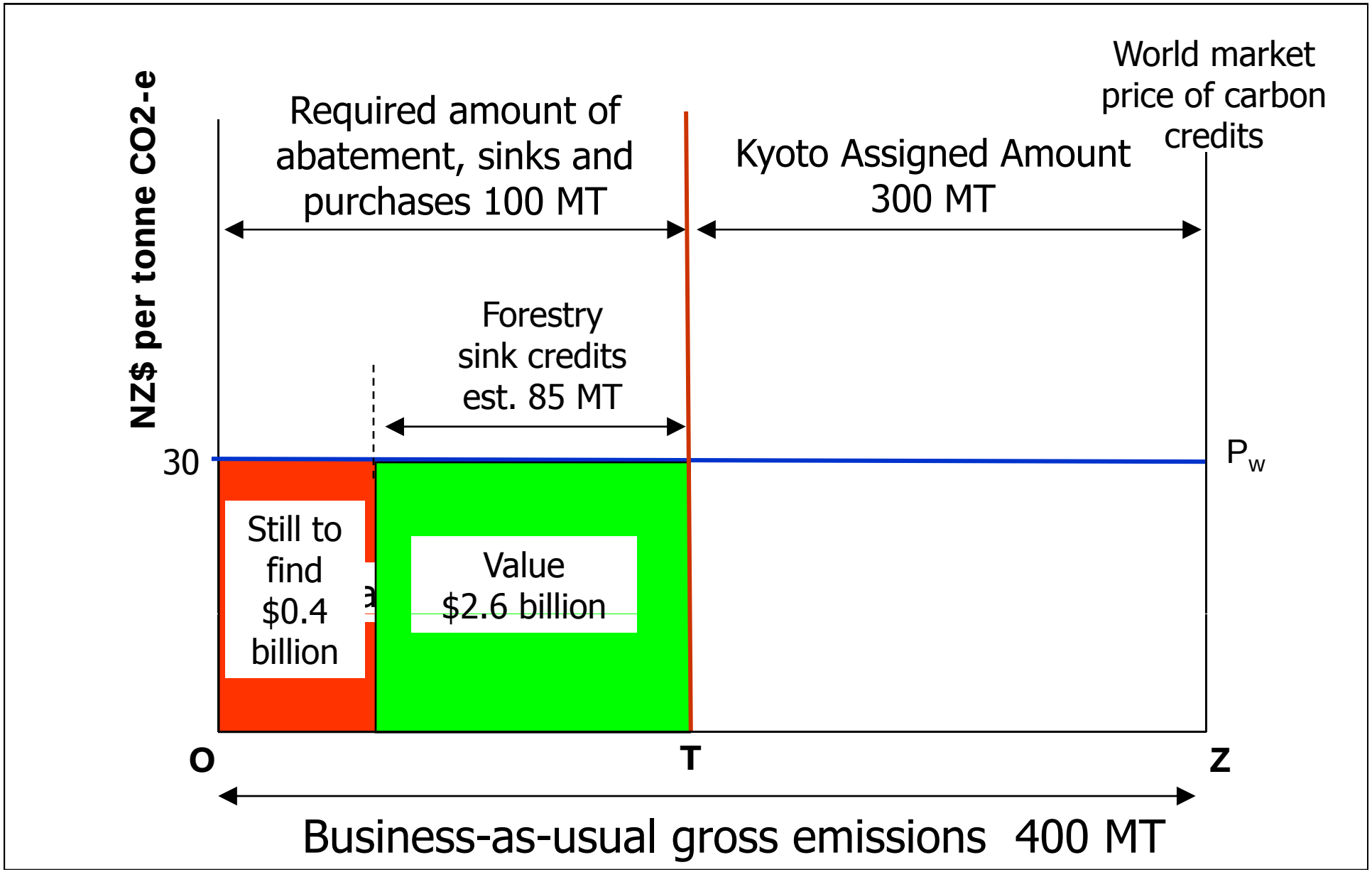
Modeling the carbon market in a small open economy

1. Demand side:

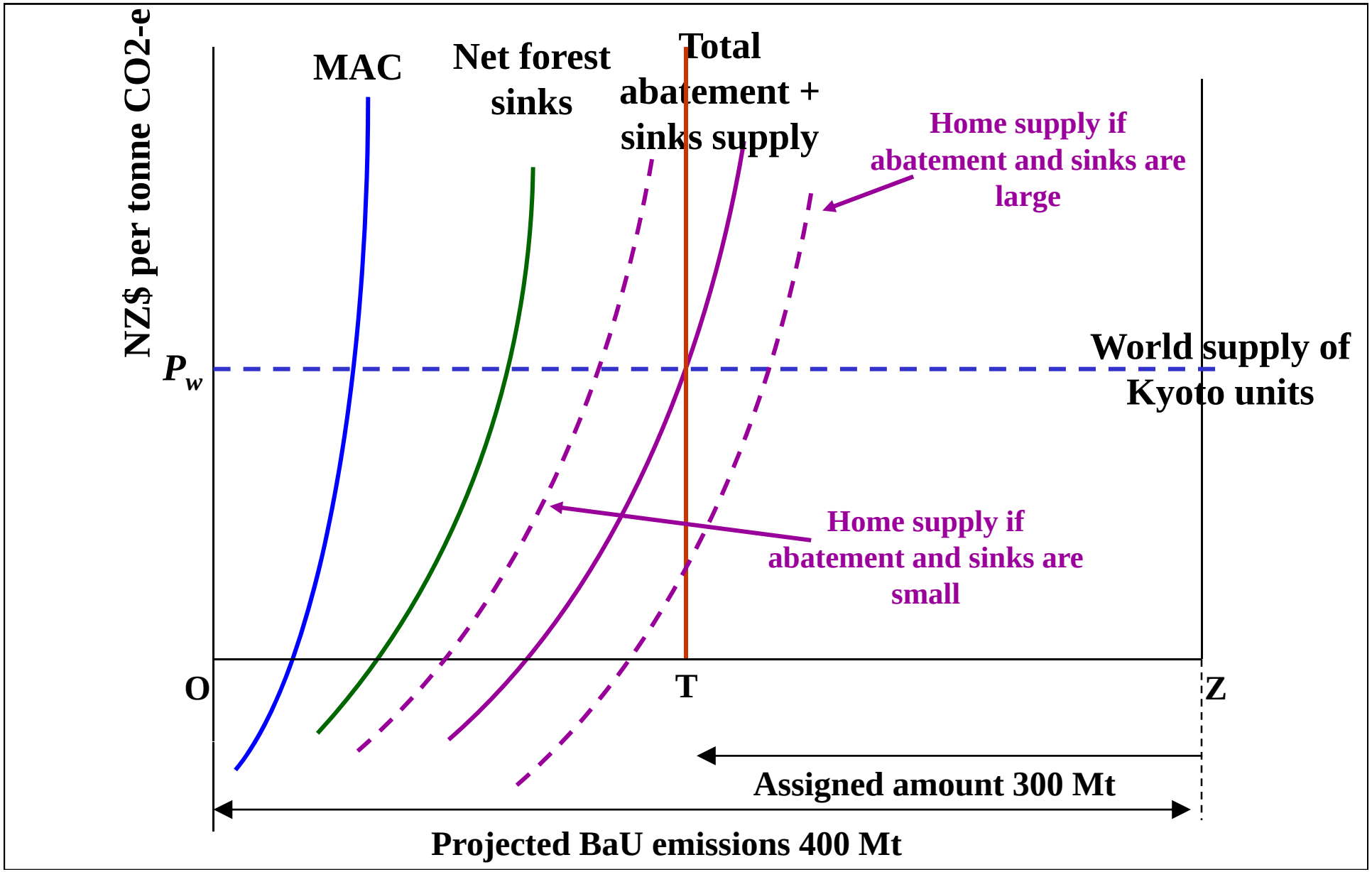


Modeling the carbon market in a small open economy

2. Kyoto trading:



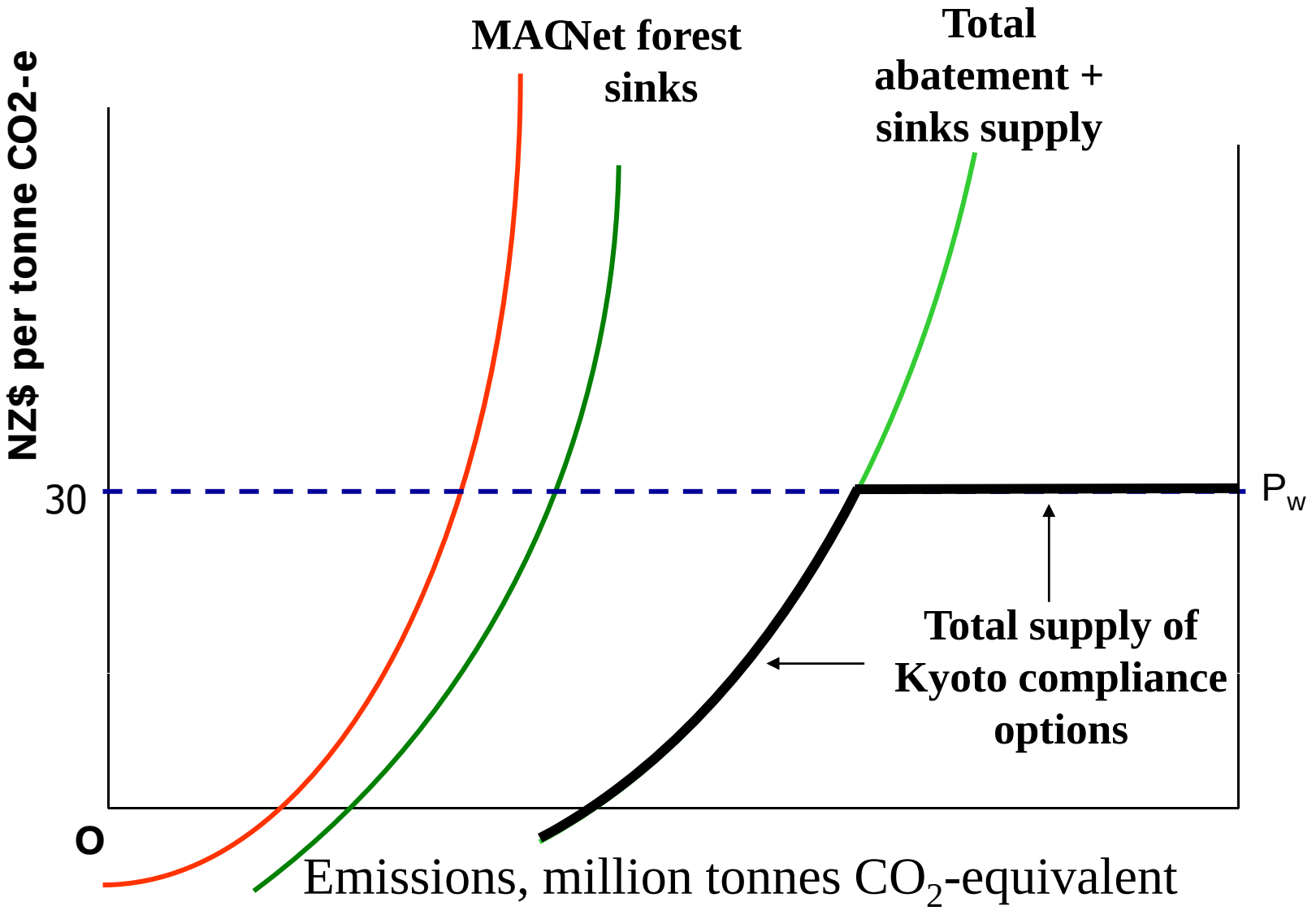
Modeling the carbon market in New Zealand
3. Supply side



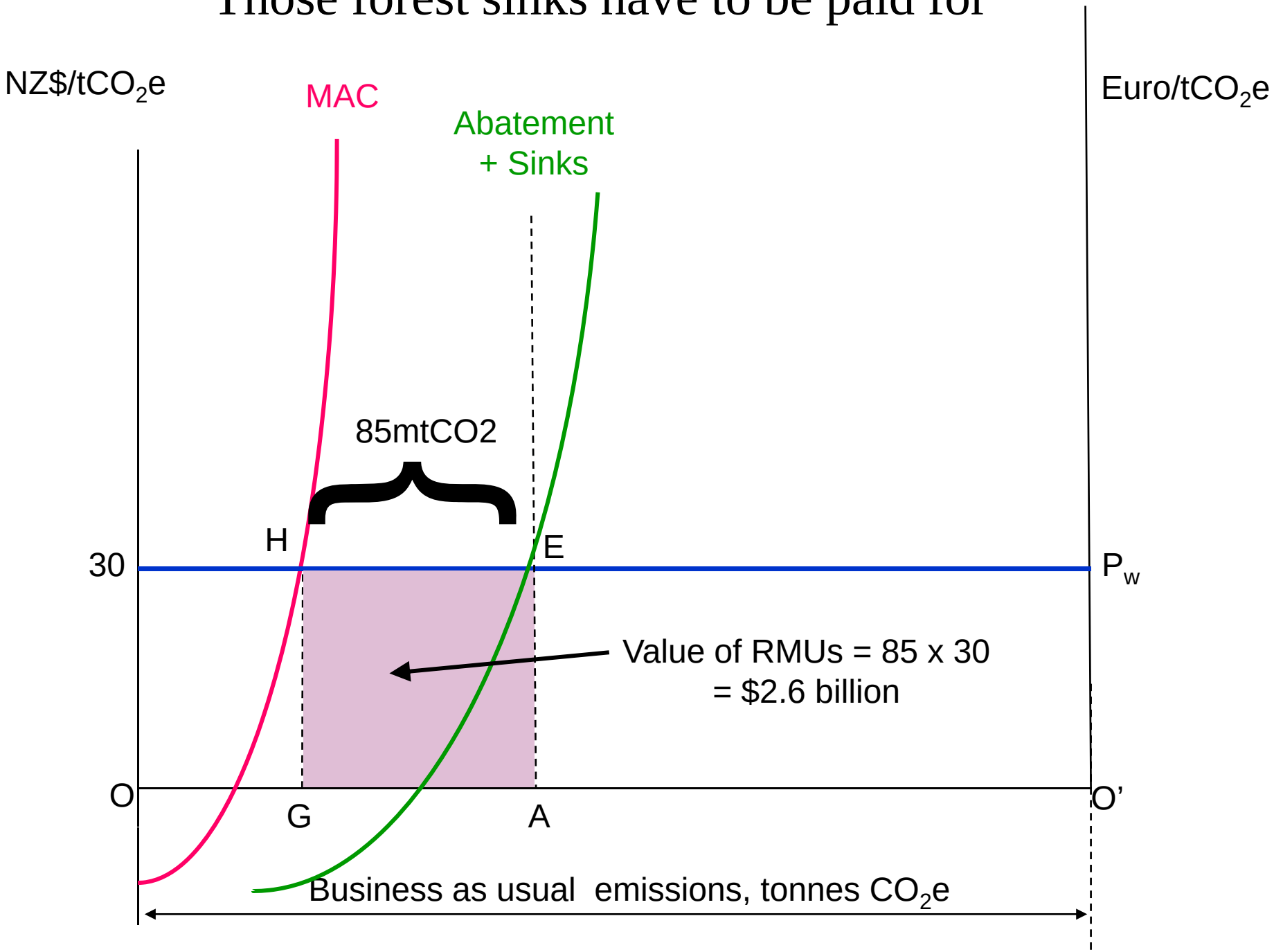
Conceptual architecture of the NZ ETS is a carbon tax set by arbitrage at the world carbon price

- There is no cap on total allowed emissions
- but emission sources must surrender carbon credits equal to their liable emissions
- These carbon credits can be secured either from free allocation by the NZ Government or by open-market purchase at home or abroad
- All Kyoto units except certain tCERs and lCERs are acceptable to cover emissions, and the home-grown unit the NZU is valued at par with AAUs, RMUs, ERUs and CERs

Modeling the carbon market in a small open economy
Unrestricted trading caps the carbon tax at the world price:



Those forest sinks have to be paid for



It’s not necessary to pay forest owners the full value of their RMUs to get the sinks

- But paying them nothing would mean smaller sinks
- So the issue for Government is how to pay them something
- There are three choices:
  - Pay them cash (an expenditure item in the Budget)
  - Hand over some share of the RMUs eventually received by the NZ Government for CP1 sinks
  - Pay them in NZUs which they can sell (or bank to cover future deforestation)
- For the NZ Treasury, the NZU route is a simple way to protect the fiscal position and keep sequestration costs off the Crown balance sheet (no contingent liability)
- In effect, the job of collecting the taxes to fund payments to foresters has been privatised by creating a special-purpose financial instrument, the NZU

ETS exemptions and the overissue problem

- The New Zealand Unit (NZU) is to be created and issued by the Government via free allocations to two sectors: large industry and forestry

- Forest owners will receive NZUs as the local counterpart to the RMUs the New Zealand Government will secure from Bonn for sequestration during CP1 – that is, the Government will appropriate the RMUs to its own registry and compensate foresters with a matching volume of NZUs

- Large industry will be gifted 45 million NZUs, which will more than cover its emissions, leaving big corporates a saleable surplus of units

- Agricultural emissions will be exempted from any emissions charges until 2013 and then will face a gradually-ramped emissions tax reaching the Kyoto price in 2030

- From 2010 transport fuels, stationary energy and electricity generation will be subject to emission tax; upstream suppliers of fuels will have to surrender either NZUs or Kyoto units

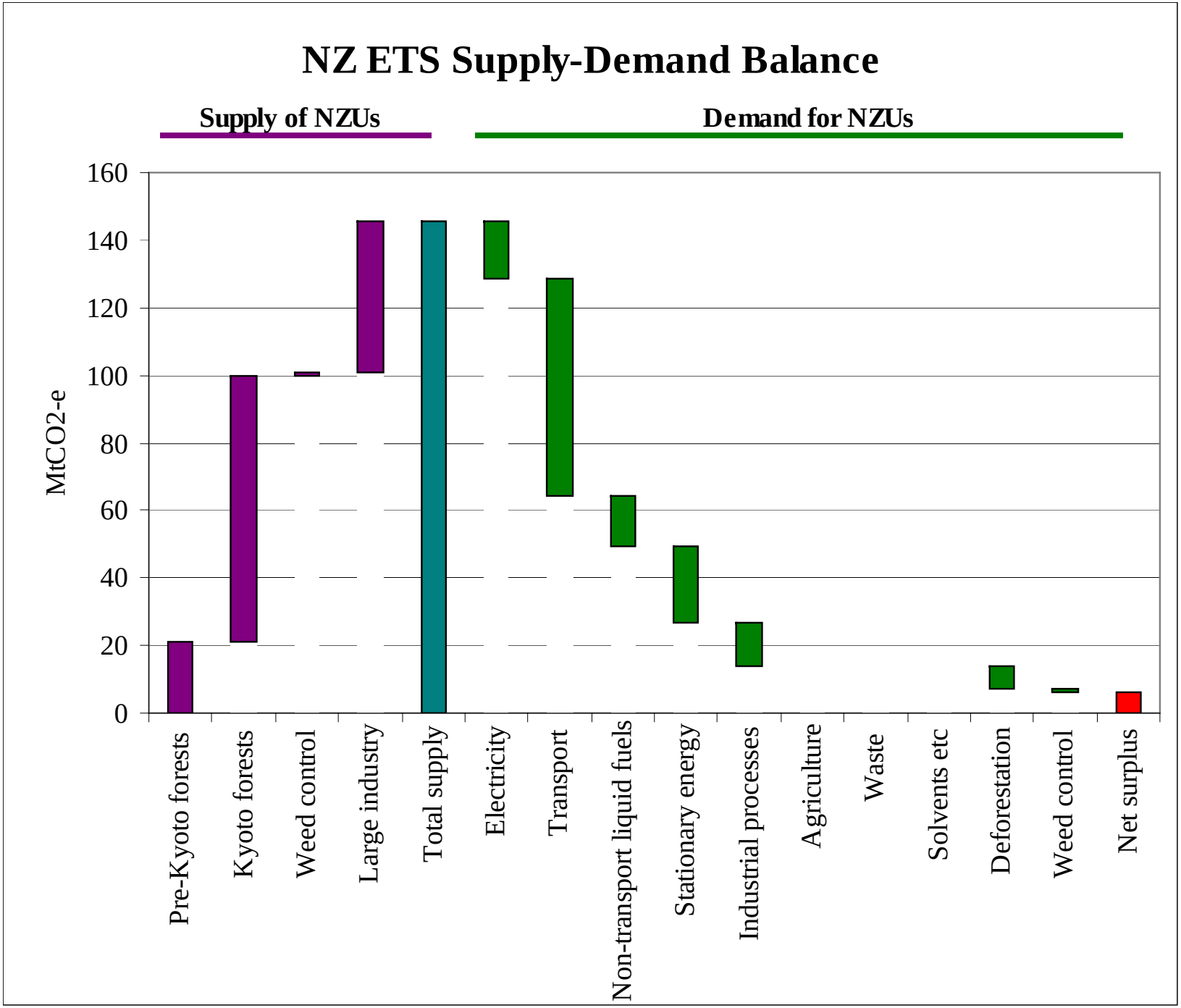
The familiar problem is the political temptation to overdo free allocation

- Government has committed to issuing free around 150 million NZUs to forestry and large emission-intensive industry

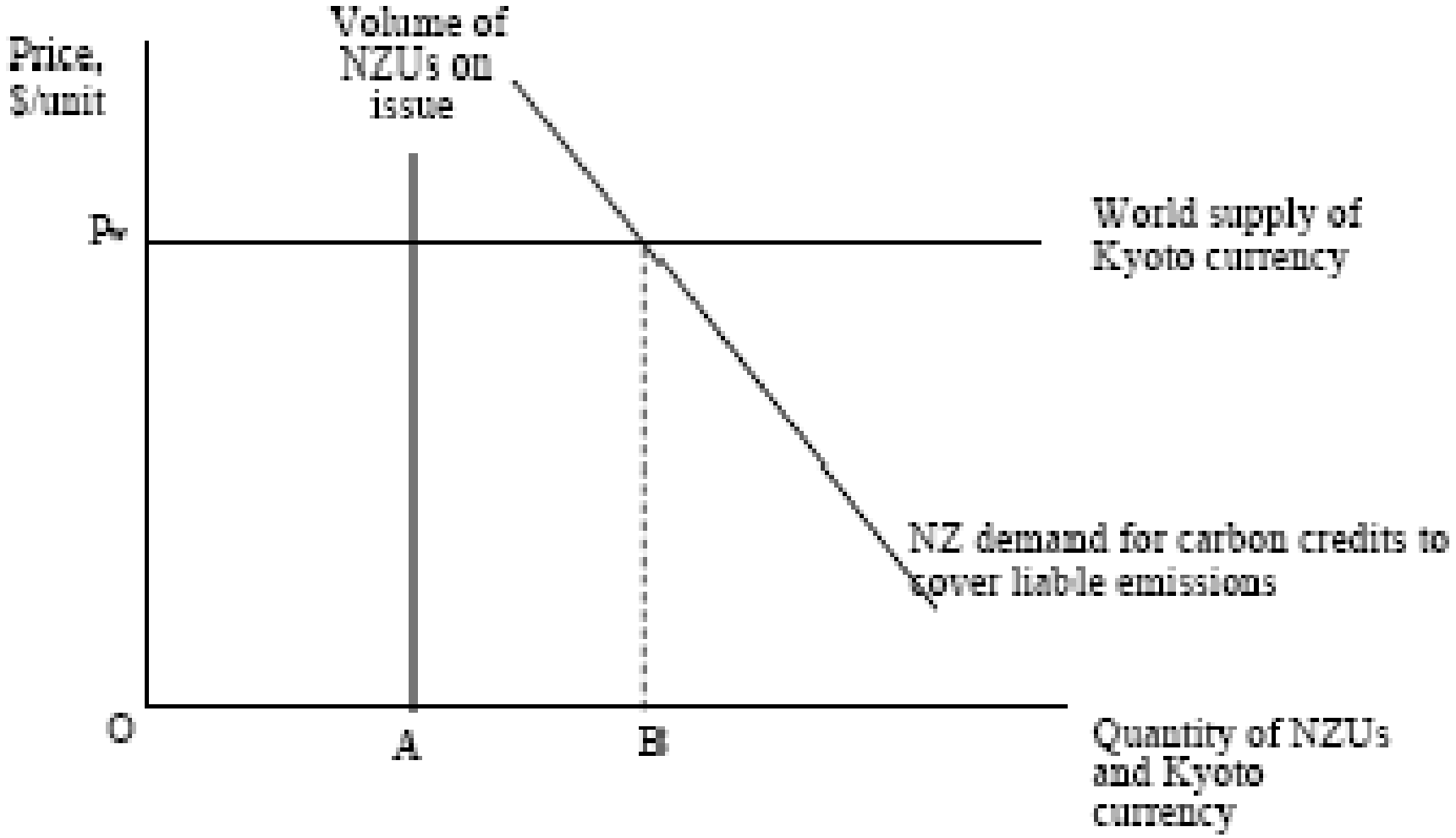
- By the time you take account of exemptions from liability to cover emissions with carbon credits, liable emissions during CP1 are between 90 and 110 MtCO2-e

- The only way to square this circle will be for forest owners to either walk away from collecting their allocations, or bank the great bulk of them

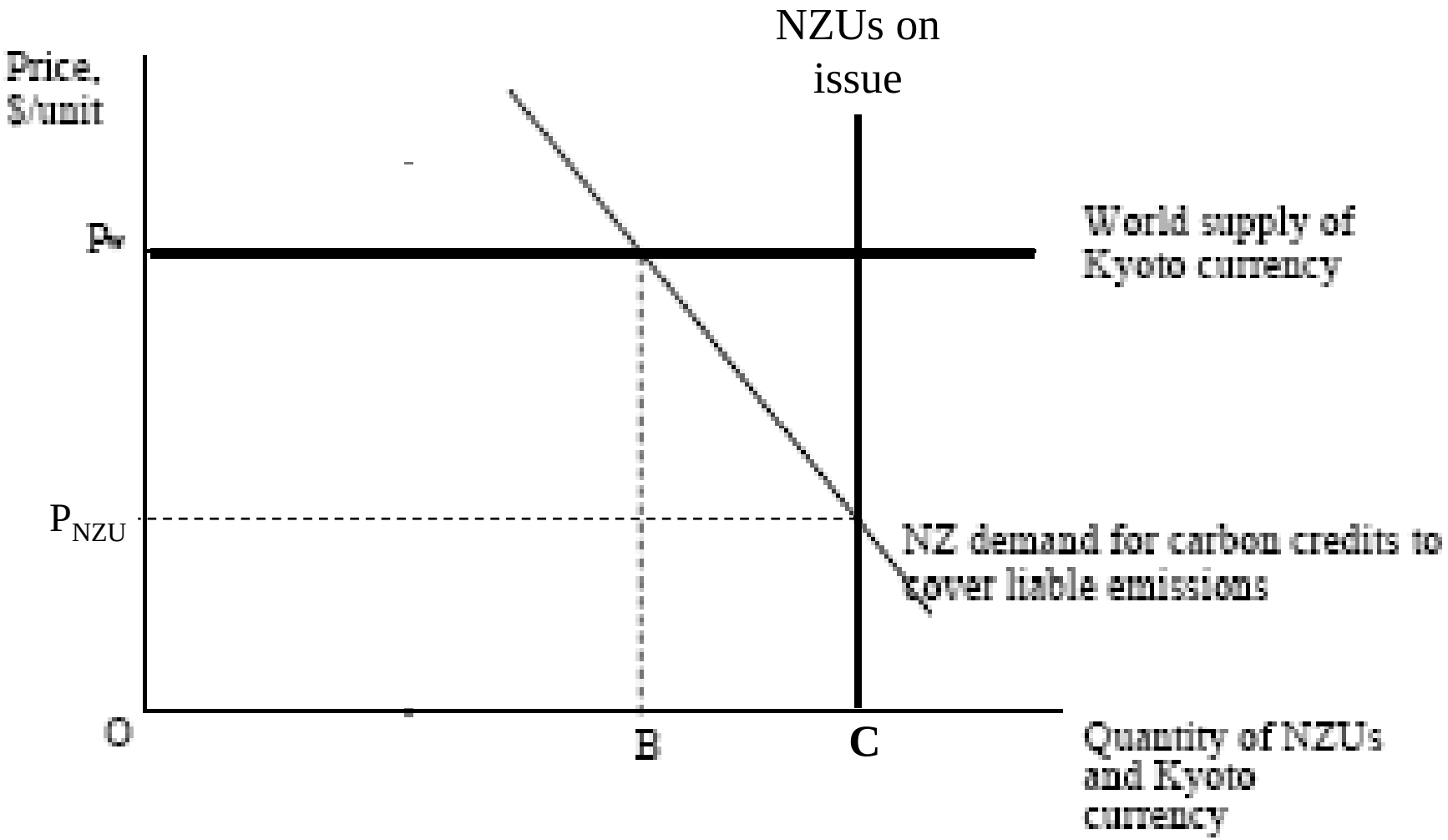
NZ ETS Supply-Demand Balance



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



But it could go lower if there is excess supply



Will arbitrage against AAUs guarantee the value of NZUs?

- Although it is intended that the market for the NZU be open to and linked with the world carbon market, the NZU will not necessarily be bought and sold at the same price as the main Kyoto currencies for which it is a close substitute.

- The world price for carbon sets the ceiling but by no means the floor.

- There are a number of factors that will set the price of the NZU relative to world carbon prices, including the ability to convert it to one of the recognised international carbon credits, and the potential for strategic manipulation of the market.

Convertibility

- The Government states that it intends the NZU to be freely interchangeable with Kyoto currencies

- But there will be restrictions on this. The most important is imposed by the Kyoto Protocol's Commitment Period Reserve, which specifies that at least 90% of the Assigned Amount (the AAUs gifted by the UN to each nation) must be retained at all times.

- If enough NZUs are converted to AAUs to deplete the CPR, either the Government "closes the window" or goes offshore to buy more AAUs to top up the reserves

- In the first case the NZU becomes inconvertible and trades in a closed local market where its value will depend on whichever is the greater of:
  - the value of the cheapest Kyoto units the New Zealand Government will accept to cover emissions, or
  - The price offered by home purchasers of NZUs (dominated by oil companies and electricity generators)

- In the second case the taxpayer ends up effectively buying-back the NZUs at the world price

Gresham's Law

- Suppose the Government closes its window to direct conversion of NZUs to AAUs (i.e. the "currency board" is abandoned)

- The principal buyers for NZUs will then be large ETS "points of obligation" – oil companies (the refinery), thermal electricity generators, and a few others including "bankers"

- The point-of-obligation parties will have the alternative of covering their emissions with CERs, which they can buy at a big discount to AAUs on the world market

- So the NZU price will be arbitraged to the CER price (excluding the CERs the NZ Government won't accept – tCERs, nuclear CERs, etc)

- If Government doesn't close the exchange window, smart operators can switch the entire NZU issue to AAUs, sell those, buy CERs, and pocket the margin – "bad money drives out good". The taxpayer picks up the full cost of the currency support operation

Three central findings from our analysis in 2008

- Exemptions and free allocations virtually eliminate abatement incentives in all the sectors with low-hanging fruit (most spectacularly pastoral agriculture)

- The main tax burden comes to bear on two politically powerless groups: electricity consumers and motorists

- The revenue from the tax on petrol and electricity is to be captured by the recipients of freely-allocated NZUs: large emissions-intensive industry, electricity generators, and forest owners.

One third of emissions, 90% of bill

Households, SMEs and road users generate a third of the nation's emissions but meet over 90% of the net ETS payments required before 2013

Assumes a carbon price of $30/tonne

	Estimates using the new data at 6 May 2008	
	$million	%
Total net levies	3,177	100.0
Paid by large industrials	92	2.9
Paid by agriculture	154	4.8
Paid by households and SMEs	2,931	92.3

Cap and trade = carbon tax + corporate welfare

Eight of the companies that qualify for corporate welfare under the ETS are together likely to receive $1.4 billion of windfall profits from sale of NZUs over the next decade, assuming a tax rate of NZ$30/tCO2-e:

Company	**Subsidy for 2008 to 2012 ($m)**	**Subsidy for 2013 to 2018 ($m)**
NZ Aluminium Smelters	184	481
NZ Steel	70	63
Fonterra	86	108
Carter Holt Harvey	45	78
Norske Skog Tasman	55	110
Pan Pacific Forest Products	22	44
Winstone Pulp	16	31
NZ Refining	39	35
Total	**517**	**950**

The cut in gross emissions from ETS is estimated as less than 2%

Sector	Projected CP1 emissions under BAU (Mt)	Reduction in gross emissions due to ETS (Mt)
Agriculture	203.1	0
Transport fuels	80.1	0.4
Non-transport liquid fuels	19.0	0.5
Electricity	34.0	3
Stationary energy & industrial processes	62.0	1.9
Waste, solvents and other	7.3	0
Total to here	**405.4**	**5.9**
Deforestation	21.0	
Total	**426.5**	**5.9**

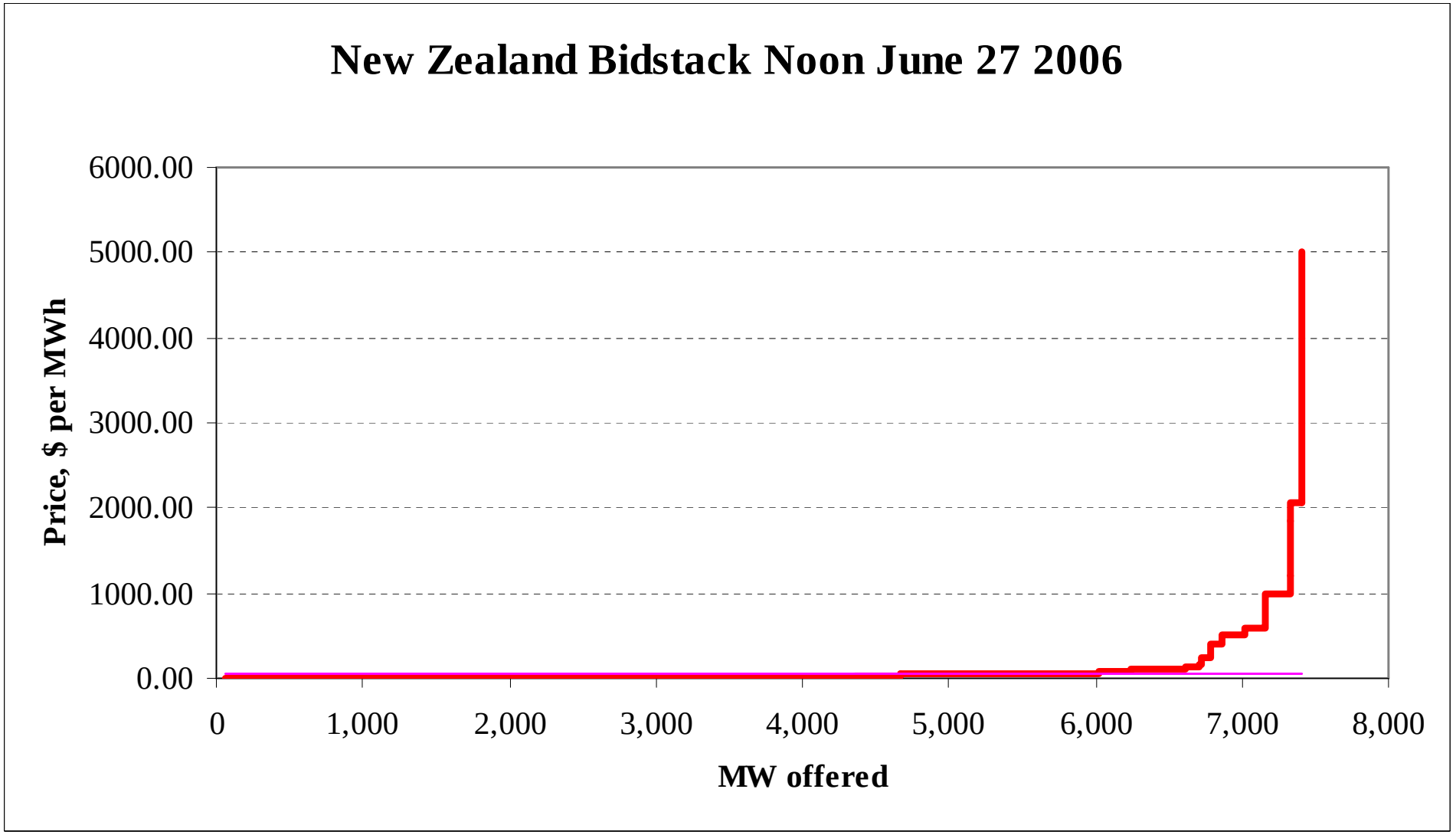
The case of electricity generators

- Electricity generation is roughly two-thirds from renewables (hydro, geothermal, wind)

- The compulsory wholesale spot market prices all electricity at the marginal offer price

- Thermal plant will generally be on the margin, needing to recover its emission charge. Fossil-fuel-based generators will have their costs raised by the amount of the emissions tax, and will pass on this additional cost to the prices they bid into the wholesale market.

- Generators using renewable resources will receive the same higher price as the thermal generators, and will be able to add the extra cash to their profits as a windfall.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MW offered

- The projected electricity price increase of $17.25/MWh will raise a total of $2,327 million of extra revenue for generators on 134.9 GWh over the relevant period of CP1, only $519 million of which will be needed to buy carbon credits.

- The other $1.8 billion will accrue as windfall profit on renewables-based generation.

- The $2.33 billion extra revenue to be collected from electricity consumers to cover 17.3 million tonnes of emissions is equivalent to a tax of well over $130 per tonne CO2-e of emissions from the electricity sector.

- Of the 6,000 MW of renewable generating capacity, over two-thirds is state-owned, so that the extra profits go to Government as revenue

- This accounts for the selection of electricity as the first sector to come fully into the ETS

- The scheme is in fact a giant money-go-round, redistributing roughly NZ$5 billion of wealth from electricity users and motorists to large industry and generators over the course of CP1