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To The Chief Executive, [\[nzetsreview@mfe.govt.nz\]](mailto:nzetsreview@mfe.govt.nz)
Ministry for the Environment
Manatū Mō Te Taiao
PO Box 10362, Wellington 6143.

Submission for The New Zealand Emissions Trading Scheme Review 2015/16

What is the New Zealand Farm Forestry Association?

The New Zealand Farm Forestry Association [FFA] has 1600 members, but, de facto, the organization represents the proprietors of nearly 15,000 small-scale, forest-owning entities that collectively possess about half a million hectares of commercial forest. Thanks to funds provided by the forest growers' levy, the FFA is responsible for communicating with the owners of these entities, who are estimated to total over 100,000 people.

Introduction.

Please find the FFA's responses to the questions 1 to 8 posed in your New Zealand Emissions Trading Scheme Review 2015/16 consultation document.

1. *Do you agree with the drivers for the review?*

These are:

- a. Improving performance of the ETS against its objectives¹.
- b. Preparing for a more carbon constrained future.
- c. Increasing certainty about future policy settings.
- d. Managing banked emission units.

Answer: Yes; and if they were prioritized we would rank them c, b, a and d.

¹ The objectives of the ETS are assumed to be as per S1.2 of MFE's consultation document i.e.

- i. Ensure the ETS helps NZ to meet its international obligations to reduce emissions by 2030 to 11 per cent below 1990 levels, from today's level of about 25 per cent above 1990.
- ii. Ensure the NZ economy is well-prepared for a strengthening international response to climate change, and potentially higher carbon prices.
- iii. Allow the ETS to evolve with these changing circumstances, and particularly with respect to the framework provided by the climate change agreement.

2. *What other factors should the Government be considering in this NZ ETS review?*

Answer: The Government should be seriously looking at including the agricultural sector. A further driver should be: “Avoid economic distortions by ensuring every sector makes a fair contribution to achieving emissions targets.” More detail is given in the answer to your question 28 which we will get to you before 30 April 2016.

3. *Should the NZ ETS move to a full surrender obligation for the liquid fossil fuels, industrial processes, stationary energy and waste sectors?*

Answer: Certainly.

3A. Explanation: The effective impact of our ETS has been delayed by 8 years through allowing emitters to use cheap international credits, the “two for one” provision, and the slow phase out of free emissions units from the Government. As a result we now face a steeper adjustment curve to control climate change. We believe that full surrender obligations and a faster decline in the allocation of free emission credits are necessary in order to catch up with our “fair share” contribution to global GHG reductions. According to the NZIER’s December 2015 report, the economic impacts of removing NZ ETS transitional measures are minimal, i.e. will cost a fraction of a percent of GDP, real wages, and so on.

The relevant sectors of the economy have already had ample warning and (we believe) have been passing on the anticipated costs of full surrender to customers for years. The 2011 ETS review recommended full phase in by 2014, but nothing was done. Full phase-in will increase the demand for NZUs, bring an overdue sense of urgency to the market, encourage emitters to adopt new practices and encourage forest planting that will absorb CO₂ emissions for the next 30 years. The wider benefits of this are discussed more fully in the answers that follow.

4. *What impact will moving to full surrender obligations have on you or your business?*

Answer: The business of NZFFA members is farming and forestry. Higher carbon prices will inevitably reduce farm profits, firstly through the rising cost of purchased goods and services; and secondly, to the extent that on-farm emissions cannot be reduced or offset, through farmers buying NZUs to meet obligations. While eventually new technology might solve the problem of on-farm emissions, we believe there is real scope to reduce the cost now through best practice and through the companion planting of trees.

Stable or rising carbon prices above \$15 per NZU will encourage new planting. Appendix 1 models the carbon balance for one hectare of new plantation forest

registered under the ETS. It assumes that credits for sequestered carbon are sold in years 7, 14, and 20 and then repurchased in year 28 for surrender when the forest is harvested. Even if carbon starts at \$15 per NZU and rises to \$75 per NZU over that period, at a discount rate of 5% pa the model shows a positive net present value from the investment. According to the University of Canterbury's January 2016 study '*Afforestation responses to carbon price changes and market certainties*', at prices of between \$12.50 to \$25/NZU, new planting should reach 15,000 ha p.a., and at a price of more than \$25/NZU new planting of 30,000 ha/year should be exceeded.

Farmers have identified that they own over 700,000 hectares of land that could be usefully planted in trees to reduce erosion and store carbon. What they currently lack is any good reason to bother.

5. *If full surrender obligations are applied, when should this be implemented?*

Answer: 2016, as soon as possible.

6. *If the NZ ETS moves to full surrender obligations, should potential price shocks be managed?*

Answer: Yes.

6A Explanation: Over the last 8 years NZU prices fell by a factor of 10 (from \$20 to \$2) then rose again by a factor of 5 (from \$2 to \$10). These price shocks confused investors and suggested that the Government either did not know, or did not care, what it was doing. If as a result of moving to full surrender obligations NZU prices now double from \$10 to \$20 that is hardly a price shock. Compared to what has happened to date, it's just a twitch.

The real risk of 'price shock' is delay. We are all aware that the pressure for climate change action is rising, and anything that delays carbon prices rising with it will create the need for a more savage adjustment in the future. That future 'price shock' is the real concern. From a forestry perspective, steadily rising carbon prices – ramping up to \$75 per NZU by 2045 - can be accommodated.

7. *If potential price shocks associated with moving to full surrender obligations should be managed, how should this be done?*

Answer: Maintain the fixed price option at \$25.

7A Explanation: We do not believe that an increase in the price of NZUs from present levels to \$25 constitutes a 'price shock'. In 2007 the Government set a fixed price option of \$25, and emitters priced in the possible need for buying Government-issued credits at that cost. Apart from delaying their obligations

nothing has changed, and in the interests of confidence and certainty, nothing should change. Should there be a need to increase the price from \$25 in the future the Government could do so, with adequate notice.

8. *If the \$25 fixed price surrender option value should change, what should it change to and why?*

Answer: No change is required until a higher price becomes necessary to encourage or enforce appropriate behavior.

APPENDIX 1

The carbon balance for one hectare of new plantation forest

The following table for one hectare of new plantation forest registered under the ETS assumes that the owner cashes up the sequestered carbon progressively in years 7, 14 and 20; and then pays back his carbon liabilities in year 28 when he harvests the block. The figures come from MAF's look-up table for the Southern North Island.

Table 1: Carbon volumes by year

Age in years	Tonnes of sequestered CO ₂ /ha from 'look-up tables' for the Southern North Island	Tonnes of sequestered CO ₂ cashed-up during the relevant year.
1	0.5	
2	3	
3	9	
4	34	
5	71	
6	113	
7	155	155
8	185	
9	197	
10	210	
11	233	
12	260	
13	291	
14	325	170
15	361	
16	398	

17	436	
18	473	
19	510	
20	547	222
21	582	
22	617	
23	650	
24	681	
25	712	
26	741	
27	769	
28	797	250

At rotation end the grower will receive a final 250 credits. After allowing for 348 tonnes/ha of CO₂e that will remain in the stump, roots and slash the grower must surrender 449 credits (=797-348). With 250 credits in hand, he must therefore buy 199 credits to meet his surrender obligations.

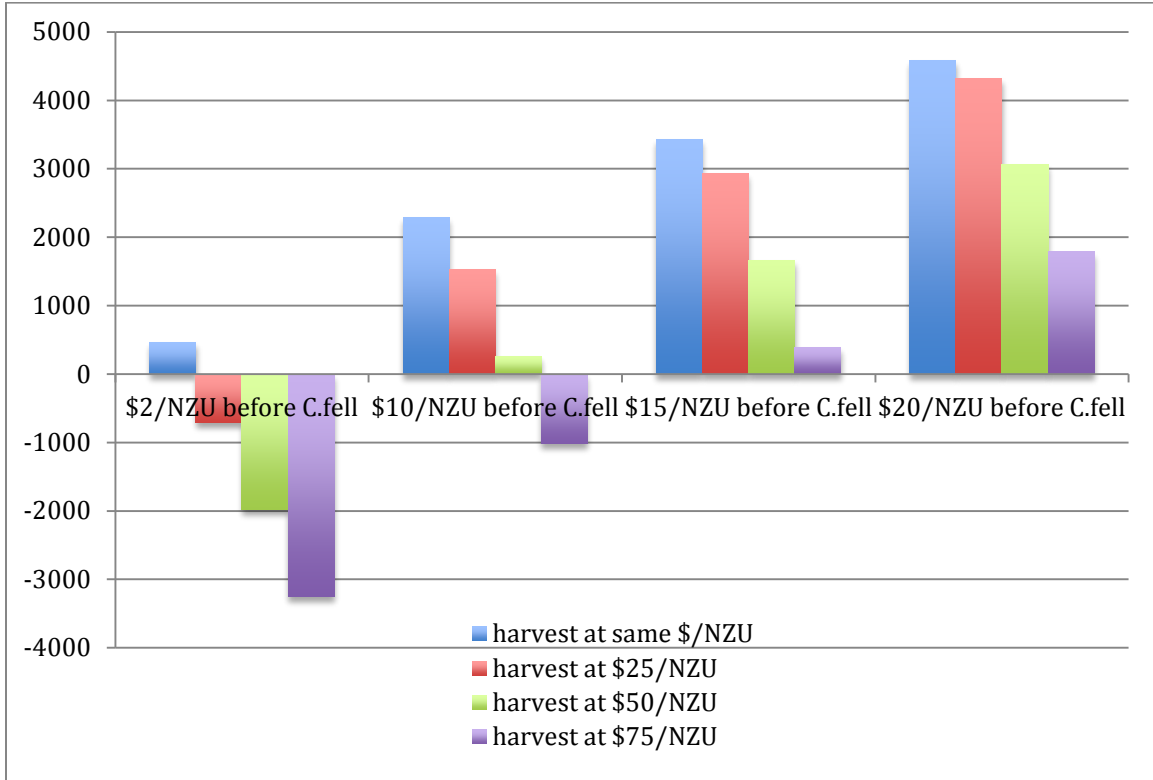
From the carbon flows above it is possible to determine the net present value to the grower assuming constant values for NZUs sold in years 7, 14, and 20 and different values at age 28 when he harvests the crop. The table below shows 16 different scenarios to illustrate the effect of rising carbon prices using a 5% discount rate.

Table 2: Grower NPVs.

Case	NZU sale price \$, years 7, 14, 20	Accumulated income \$ by year 28 at 5% interest	NZU buy price at year 28	Cost of buying 199 credits	Net income at year 28	NPV at year 0 at 5% discount
1	2	2193	2	398	1795	458
2	2	2193	25	4975	-2782	-710
3	2	2193	50	9950	-7757	-1979
4	2	2193	75	14925	-12732	-3248
5	10	10964	10	1990	8974	2289
6	10	10964	25	4975	5989	1528
7	10	10964	50	9950	1014	259
8	10	10964	75	14925	-3961	-1010
9	15	16446	15	2985	13461	3434
10	15	16446	25	4975	11471	2926

11	15	16446	50	9950	6496	1657
12	15	16446	75	14925	1521	388
13	20	21928	20	3980	17948	4578
14	20	21928	25	4975	16953	4325
15	20	21928	50	9950	11978	3056
16	20	21928	75	14925	7003	1786

Histogram 1: The NPV of the 16 scenarios in Table 2 above in \$NZ.



These scenarios suggest that at prices of \$15 per NZU or higher, growers can expect positive returns from the ETS component of growing production forests.

