



Proposed Extensions to Default Look-up Tables for Exotic Hardwoods

MPI Discussion Paper No. 2015/26

ISBN No: 978-0-908334-69-8 (online)
ISBN No: 978-0-908334-70-4 (print)
ISSN No: 2253-3907 (online)
ISSN No: 2253-3893 (print)

June 2015

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1 Purpose

The purpose of this document is to seek your feedback on proposed extensions to the default look-up tables for exotic hardwoods for forestry participants in the Emission Trading Scheme (ETS). For the proposed extension to take effect, the Climate Change (Forestry Sector) Regulations 2008 would need to be amended.

This consultation has been approved by the Minister for Climate Change Issues.

2 Default look-up tables

Participants with less than 100 hectares of post-1989 forest land¹ registered in the ETS, or in the Permanent Forest Sink Initiative (PFSI), are required to use the default look-up tables when submitting emissions returns, to calculate forest carbon stock changes in their registered forest. Participants with more than 100 hectares of post-1989 forest land also need to use the tables in certain situations, but less commonly.²

Lastly, participants who deforest pre-1990 forest land³ that is not exempt, including for offsetting purposes, are also required to use the default look-up tables to calculate forest carbon stock decrease.

The default look-up tables are a series of pre-calculated values of forest carbon stocks, by age, for a given forest type. They are based on industry standard forest growth modelling techniques that predict the increase in stem volume in forests over time. The values are equivalent to the weight of CO₂ that is removed from the atmosphere and stored in the forest during growth.

The default look-up tables cover five different forest types:

- *Pinus radiata*;
- Douglas fir;
- Exotic softwoods;
- Exotic hardwoods;
- Indigenous forest.

3 Why do the existing exotic hardwoods look-up tables need to be extended?

The current default look-up tables for exotic hardwoods only cover tree ages up to 25 years.

¹ Forest land which was not forest land on 31 December 1989, or forest land on 31 December but was deforested between 1 January 1990 and 31 December 2007, or pre-1990 forest that was deforested on or after 1 January 2008. Alternatively, post-1989 forest land also includes pre-1990 forest land deforested on or after 1 January 2013 that was offset or for which offsetting liability has been fully paid, or exempt land that has been deforested and any liabilities which would have been payable have been paid.

² See regulations 22E, 22H, 22J and 22L of the Climate Change (Forestry Sector) Regulations 2008.

³ Forest land which was forest land on 31 December 1989, remained as forest land on 31 December 2007, and was predominantly exotic forest species on 31 December 2007. Pre-1990 forest land does not include land that meets this definition, but which was subsequently deforested or declared exempt, and for which any relevant emissions liability has been paid.

From January 2016, some of post-1989 forests comprised of exotic hardwoods will reach an age of 26 years. While the regulations⁴ allow participants to use the figure for the age of 25 years for all exotic hardwood forests older than that age, this will result in inaccurate and underestimated emissions and removals reporting.

MPI believes this issue will impact approximately 15 participants with post-1989 forest land in the coming year. These participants have around 200 hectares of post-1989 exotic hardwoods forest established in 1990. Additional area and participants will be impacted each year as forest stands age. If the look-up tables are not extended these participants will not be able to claim New Zealand Units associated with the growth since the forest age of 25 in these areas of forest.

There are also participants with pre-1990 forests comprised of exotic hardwoods that are older than 25 years old. MPI is aware of a number of cases where pre-1990 forest containing exotic hardwoods older than 25 years old have been deforested. The number of units surrendered in these cases is likely to have been an underestimate of the actual emissions from this deforestation.

Pre-1990 offsetting operations involving exotic hardwoods will also be affected if the look-up tables are not extended. If the area being deforested as part of an offsetting proposal contains exotic hardwoods that are older than 25 years this is likely to result in an underestimate of the actual emissions from the deforested area which may result in the offset area being insufficient to achieve carbon equivalence within the required timeframe. Alternatively if exotic hardwoods are being planted as part of the offset forest, the carbon stocks calculated to be present for the purpose of determining carbon equivalence are likely to be underestimated resulting in a need to plant more land than is necessary.

4 Proposed extensions

The proposed extensions to the default look-up tables for exotic hardwoods are attached and presented graphically in Appendix 1.

These extensions have been produced through an extrapolation of the growth trend used in the current look-up tables. They will allow participants to calculate forest carbon stock changes more accurately without imposing any new compliance requirements. The proposed extension is for a further 10 years to the age of 35 years.

These extensions, if agreed by Cabinet, will result in the additional values for exotic hardwoods being added to the following tables in the Climate Change (Forestry Sector) Regulations 2008:

- Schedule 6 - Tables of carbon stock per hectare for post-1989 forest land – Table 2 ‘Carbon stock per hectare for Douglas fir, exotic softwoods, exotic hardwoods, and indigenous forest’.
- Schedule 6 – Tables of carbon stock per hectare for post-1989 forest land -Table 4 ‘Carbon stock per hectare in above ground residual wood and below ground roots from cleared Douglas fir, exotic softwoods, exotic hardwoods, and indigenous forest.

⁴ Climate Change (Forestry Sector) Regulations 2008

- Schedule 4 - Tables of carbon stock per hectare for pre-1990 forest land - Table 2
‘Carbon stock per hectare for Douglas fir, exotic softwoods, exotic hardwoods, and indigenous forest.

5 Alternatives considered

The alternative to extending the default look-up tables for exotic hardwoods is to maintain the status quo. The regulations already contemplate situations where the trees are older than the last age on the look-up table for that forest type in that they allow the final figures on the look-up table to continue to be used.

For example, in cases where pre-1990 forest is deforested and the trees cleared from land are older than the last age on the tables for that forest type, the age for those trees is the last age on the table. Similarly, for post-1989 forest, if the age of a tree is older than the last age on the table for that forest type, the age for that tree is the last age on the table.

As noted above, the status quo would result in:

- Inaccurate and underestimated emissions and removals reporting;
- Participants with post-1989 forest land containing hardwoods older than 25 years of age will not be able to claim New Zealand Units associated with the further growth in these areas of forest;
- Inconsistencies in offsetting applications that include exotic hardwoods.

6 Discussion points

- Do you have any feedback regarding the proposed the extension to the default look-up tables for exotic hardwoods?
- Are there any relevant problems, alternatives, or impacts (both costs and benefits) from the proposed regulations that should be considered?

Submissions close on: 5:00 pm Monday 10 July 2015

Send your feedback to:

climatechange@mpi.govt.nz

ETS Operations
Ministry for Primary Industries
PO Box 2526
Wellington 6140

NEXT STEPS

Submissions will be analysed and reported to Ministers for decisions. The proposed regulations changes are intended to take effect from 1 January 2016.

Consultation	29 June - 10 July 2015
Regulations amended	Late 2015
Regulations in force	1 January 2016

Updates about this process will be provided in MPI's email newsletter *Sustainable Forestry Bulletin*.

To receive a copy of MPI's Sustainable Forestry Bulletin, email sustainableforestrybulletin@mpi.govt.nz with Sustainable Forestry Bulletin Subscription in the subject line.

Useful links

Climate Change (Forestry Sector) Regulations 2008

www.legislation.govt.nz/regulation/public/2008/0355/latest/DLM1633759.html

Appendix 1: Proposed extension to the exotic hardwoods look-up tables

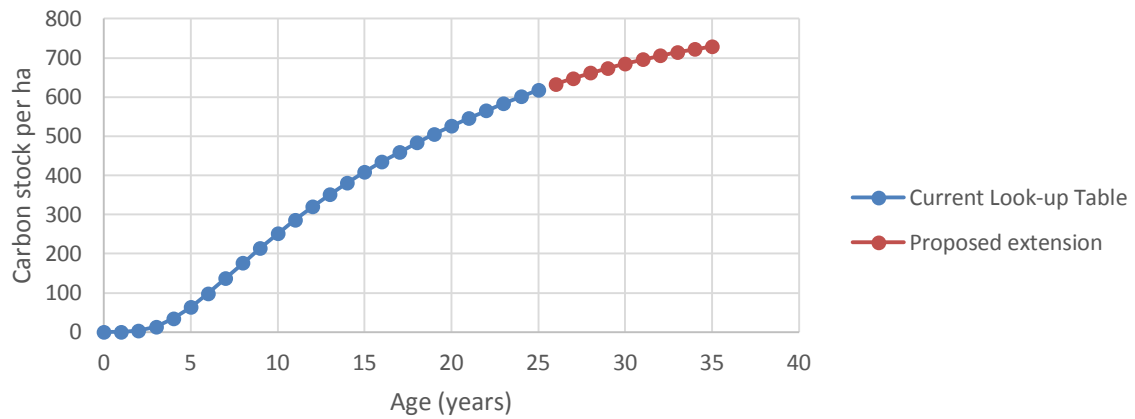
The highlighted values below are the proposed extensions to the 3 exotic hardwoods look-up tables.

Carbon stock per hectare for post-1989 forest land containing exotic hardwoods	
Age (years)	Carbon stock per hectare (expressed as tonnes of carbon dioxide per hectare)
0	0
1	0.1
2	3
3	13
4	34
5	63
6	98
7	137
8	176
9	214
10	251
11	286
12	320
13	351
14	381
15	409
16	435
17	459
18	483
19	505
20	526
21	546
22	565
23	584
24	601
25	618
26	633
27	648
28	661
29	674
30	685
31	696
32	706
33	714
34	722
35	729

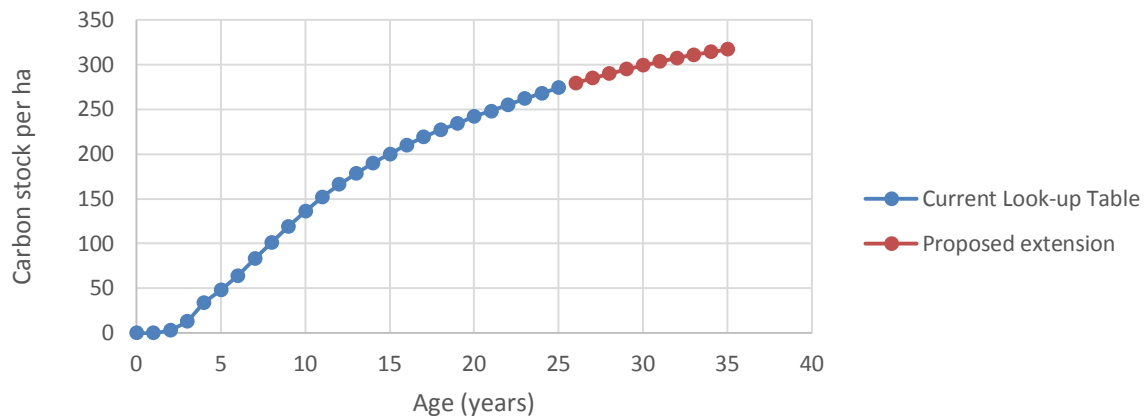
Carbon stock per hectare in above-ground residual wood and below-ground roots from cleared exotic hardwoods	
Age (years)	Carbon stock per hectare (expressed as tonnes of carbon dioxide per hectare)
0	0
1	0.1
2	3
3	13
4	34
5	48
6	64
7	83
8	101
9	119
10	136
11	152
12	166
13	178
14	190
15	200
16	210
17	219
18	227
19	234
20	242
21	248
22	255
23	262
24	268
25	274
26	280
27	285
28	290
29	295
30	299
31	303
32	307
33	311
34	314
35	317

Carbon stock per hectare for pre-1990 forest land containing exotic hardwoods	
Age (years)	Carbon stock per hectare (expressed as tonnes of carbon dioxide per hectare)
9	282
10	310
11	337
12	364
13	390
14	414
15	438
16	460
17	481
18	502
19	522
20	541
21	559
22	576
23	594
24	610
25	626
26	641
27	655
28	668
29	681
30	693
31	705
32	716
33	726
34	735
35	744

Carbon stock per hectare for post-1989 forest land containing exotic hardwoods



Carbon stock per hectare in above-ground residual wood and below-ground roots from cleared exotic hardwoods



Carbon stock per hectare for pre-1990 forest land containing exotic hardwoods

