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# FUNDING DYNAMIC, SUSTAINABLE LAND USE.

# What are we offering to landowners?

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- Tāmata Hauhā provides all the development funding, plants, operations, insurances, trading and ongoing compliance management in entering the ETS. Fencing is typically excluded or done by negotiation.
- We work with the landowners to co-design sustainable forestry solutions. Solutions that can include agroforestry/silvipasture, production, permanent, as well as transitional/integrated forestry outcomes.
- Landowners typically receive 50% of the profits for a 16-20-year period and then 100% after that.
- Our partnership offers the long-term benefits of planting trees that will improve biodiversity at no cost to the landowner.

# What types of afforestation do we fund?

- **Permanent forestry** – we favour a mixed species approach over just pine, incorporating high-value food, fibre and nutraceutical native species under the carbon canopy, as well as agroforestry, apiculture, riparian and erosion stabilisation.
- **Permanent/transitional/integrated forestry** – this is where an exotic baseline is managed to transition long-term towards native forestry.
- **Production forestry** – in this scenario landowners choose a single rotation and once harvested use the proceeds to establish a secondary rotation of production or native forestry.

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# Eligibility requirements of the ETS

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The land must be:

- At least 1 hectare with an average width of at least 30 meters.
- Not in forest cover as at 31 December 1989.
- The forest must have at least 30% canopy ground cover and be at least 5m tall at maturity.

Forest land that does not meet the criteria defined above is not considered forest under the NZ ETS. Examples include:

- Narrow shelterbelts
- Gorse or Broom
- Horticultural tree species
- Scattered tree species are unlikely to ever reach 30% canopy ground cover.

# Understanding Agroforestry:

**Pasture-forestry interaction for animal welfare benefits, soil management, microclimate modification, carbon sequestration and nutrient recycling. Creating “and-and” outcomes!**

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# Understanding Agroforestry:

# Permanent mixed species carbon forestry

## Utilising best practice permanent mixed species carbon forestry in the New Zealand Emissions Trading Scheme as an economic and environmental enabler.

# Understanding high-value understory supply chains:

## Expanding landowner opportunities to layer-in new revenue streams, trialing new investment opportunities from high-value food, fibre and nutraceutical taonga species.

# Understanding Transitional Forestry:

**Such forests are examples that demonstrate the value of biodiversity whilst ensuring long-term carbon storage above and below ground, as an economic enabler that provides for climate resilience and recreational use.**

# Transitional Forestry Whakaaro:

# Species selection: Projected Landowner Returns Per Ha (EBIT).

| Year | Radiata Pine Annual Return | Hardwoods Annual Return | Softwoods Annual Return |
|---|---|---|---|
| 1 | $18 | $4 | $7 |
| 2 | $92 | $104 | $29 |
| 3 | $225 | $364 | $73 |
| 4 | $955 | $780 | $334 |
| 5 | $1,442 | $1,099 | $530 |
| 6 | $1,669 | $1,352 | $734 |
| 7 | $1,703 | $1,537 | $709 |
| 8 | $1,241 | $1,568 | $563 |
| 9 | $506 | $1,558 | $410 |
| 10 | $559 | $1,548 | $335 |
| 11 | $1,009 | $1,493 | $469 |
| 12 | $1,209 | $1,480 | $522 |
| 13 | $1,415 | $1,376 | $621 |
| 14 | $1,583 | $1,358 | $679 |
| 15 | $1,710 | $1,293 | $739 |
| 16 | $1,793 | $1,225 | $801 |
| 17 | $1,878 | $1,153 | $817 |
| 18 | $1,865 | $1,176 | $833 |
| 19 | $1,902 | $1,100 | $900 |
| 20 | $1,940 | $1,071 | $867 |

| **Pine Returns** | Income |
|---|---|
| Initial 10 Years | $8,410 |
| Year 11-20 | $16,305 |
| Year 21-30 | $35,549 |
| Year 31-40 | $34,927 |
| Year 41-50 | $43,264 |
| **Total Revenue** | **$138,455** |
| **Hardwood Returns** | Income |
| Initial 10 Years | $9,913 |
| Year 11-20 | $12,725 |
| Year 21-30 | $17,928 |
| Year 31-40 | $10,880 |
| Year 41-50 | $11,847 |
| **Total Revenue** | **$63,293** |
| **Softwood Returns** | Income |
| Initial 10 Years | $3,724 |
| Year 11-20 | $7,248 |
| Year 21-30 | $17,118 |
| Year 31-40 | $17,164 |
| Year 41-50 | $19,817 |
| **Total Revenue** | **$65,072** |

| Age (Years) | RADIATA PINE Carbon Sequestered (t/ha) | RADIATA PINE Annual Sequestration (t) | EXOTIC HARDWOODS Carbon Sequestered (t/ha) | EXOTIC HARDWOODS Annual Sequestration (t) | EXOTIC SOFTWOODS Carbon Sequestered (t/ha) | EXOTIC SOFTWOODS Annual Sequestration (t) | NATIVE FORESTRY Carbon Sequestered (t/ha) | NATIVE FORESTRY Annual Sequestration (t) |
|---|---|---|---|---|---|---|---|---|
| 0 | 0 | | | | | | | |
| 1 | 0.5 | 0.5 | 0.1 | 0.1 | 0.2 | 0.2 | 0.6 | 0.6 |
| 2 | 3 | 2.5 | 3 | 2.9 | 1 | 0.8 | 1.2 | 0.6 |
| 3 | 9 | 6 | 13 | 10 | 3 | 2 | 2.5 | 1.3 |
| 4 | 34 | 25 | 34 | 21 | 12 | 9 | 4.6 | 2.1 |
| 5 | 71 | 37 | 63 | 29 | 26 | 14 | 7.8 | 3.2 |
| 6 | 113 | 42 | 98 | 35 | 45 | 19 | 12.1 | 4.3 |
| 7 | 155 | 42 | 137 | 39 | 63 | 18 | 17.5 | 5.4 |
| 8 | 185 | 30 | 176 | 39 | 77 | 14 | 24 | 6.5 |
| 9 | 197 | 12 | 214 | 38 | 87 | 10 | 31.6 | 7.6 |
| 10 | 210 | 13 | 251 | 37 | 95 | 8 | 40.2 | 8.6 |
| 11 | 233 | 23 | 286 | 35 | 106 | 11 | 49.8 | 9.6 |
| 12 | 260 | 27 | 320 | 34 | 118 | 12 | 60.3 | 10.5 |
| 13 | 291 | 31 | 351 | 31 | 132 | 14 | 71.5 | 11.2 |
| 14 | 325 | 34 | 381 | 30 | 147 | 15 | 83.3 | 11.8 |
| 15 | 361 | 36 | 409 | 28 | 163 | 16 | 95.5 | 12.2 |
| 16 | 398 | 37 | 435 | 26 | 180 | 17 | 108.1 | 12.6 |
| 17 | 436 | 38 | 459 | 24 | 197 | 17 | 120.8 | 12.7 |
| 18 | 473 | 37 | 483 | 24 | 214 | 17 | 133.6 | 12.8 |
| 19 | 510 | 37 | 505 | 22 | 232 | 18 | 146.3 | 12.7 |
| 20 | 547 | 37 | 526 | 21 | 249 | 17 | 158.7 | 12.4 |
| 21 | 582 | 35 | 546 | 20 | 266 | 17 | 170.9 | 12.2 |
| 22 | 617 | 35 | 565 | 19 | 283 | 17 | 182.6 | 11.7 |
| 23 | 650 | 33 | 584 | 19 | 299 | 16 | 193.9 | 11.3 |
| 24 | 681 | 31 | 601 | 17 | 315 | 16 | 204.7 | 10.8 |
| 25 | 712 | 31 | 618 | 17 | 330 | 15 | 215.0 | 10.3 |
| 26 | 741 | 29 | 633 | 15 | 344 | 14 | 224.6 | 9.6 |
| 27 | 769 | 28 | 648 | 15 | 359 | 15 | 233.7 | 9.1 |
| 28 | 797 | 28 | 661 | 13 | 373 | 14 | 242.2 | 8.5 |
| 29 | 825 | 28 | 674 | 13 | 387 | 14 | 250.1 | 7.9 |
| 30 | 852 | 27 | 685 | 11 | 400 | 13 | 257.5 | 7.4 |
| 31 | 878 | 26 | 696 | 11 | 414 | 14 | 264.3 | 6.8 |
| 32 | 903 | 25 | 706 | 10 | 427 | 13 | 270.6 | 6.3 |
| 33 | 929 | 26 | 714 | 8 | 440 | 13 | 276.3 | 5.7 |
| 34 | 953 | 24 | 722 | 8 | 452 | 12 | 281.6 | 5.3 |
| 35 | **978** | 25 | **729** | 7 | **465** | 13 | **286.5** | 4.9 |

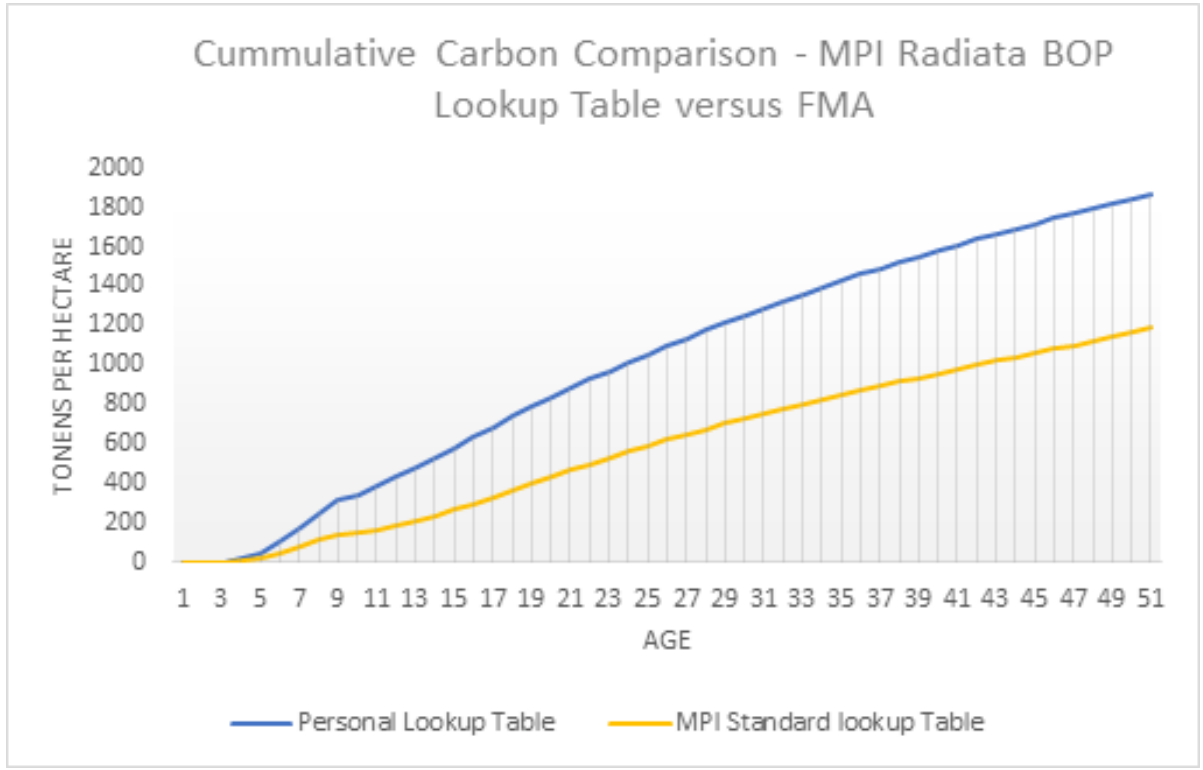
# Understanding species selection returns: Look-up tables vs FMA

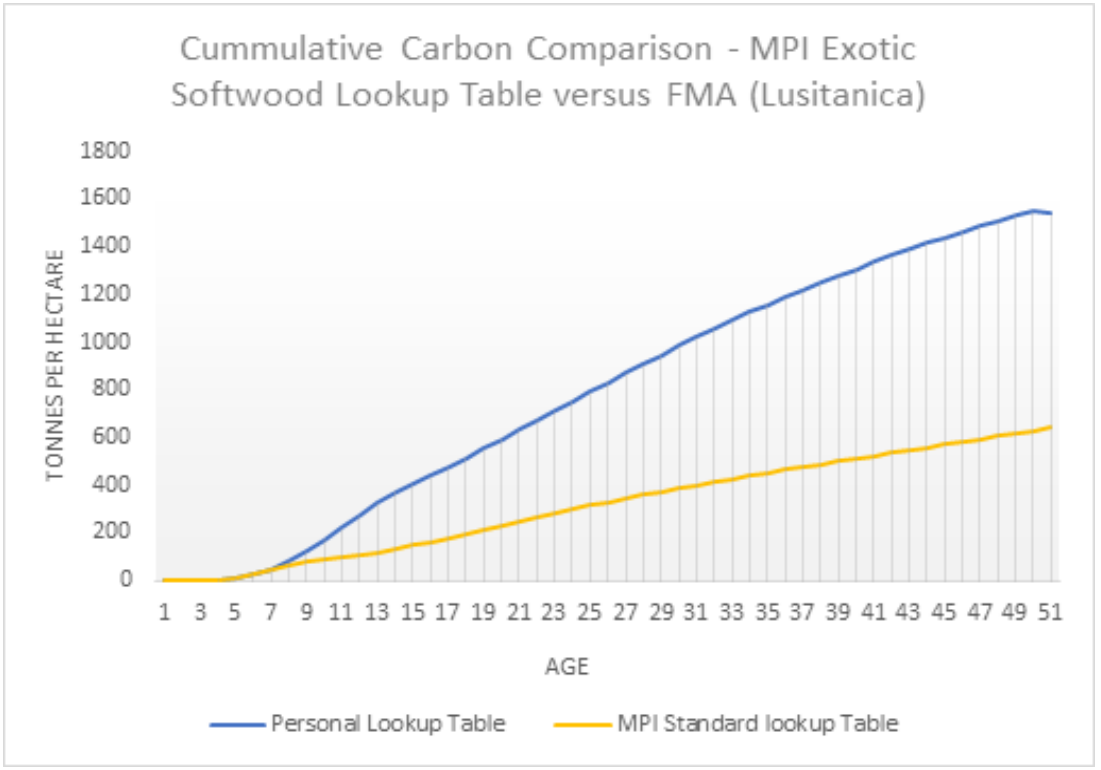
## Cumulative carbon comparison

The two charts below illustrate the differences between:

a. the cumulative carbon volumes between the MPI standard lookup tables (yellow line) and the forest; and

b. specific tables issued by MPI using the FMA data (blue line).




For this reason, we recommend alternative species such as Hardwoods and Softwoods that are better or comparative, to Pinus radiata returns.

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# Questions/Pātai?

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