Ministry for Primary Industries
Manatū Ahu Matua

Carbon farming and funding for new forests

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Hawke's Bay – March 2017

www.mpi.govt.nz

Basics of carbon farming

The domestic carbon market

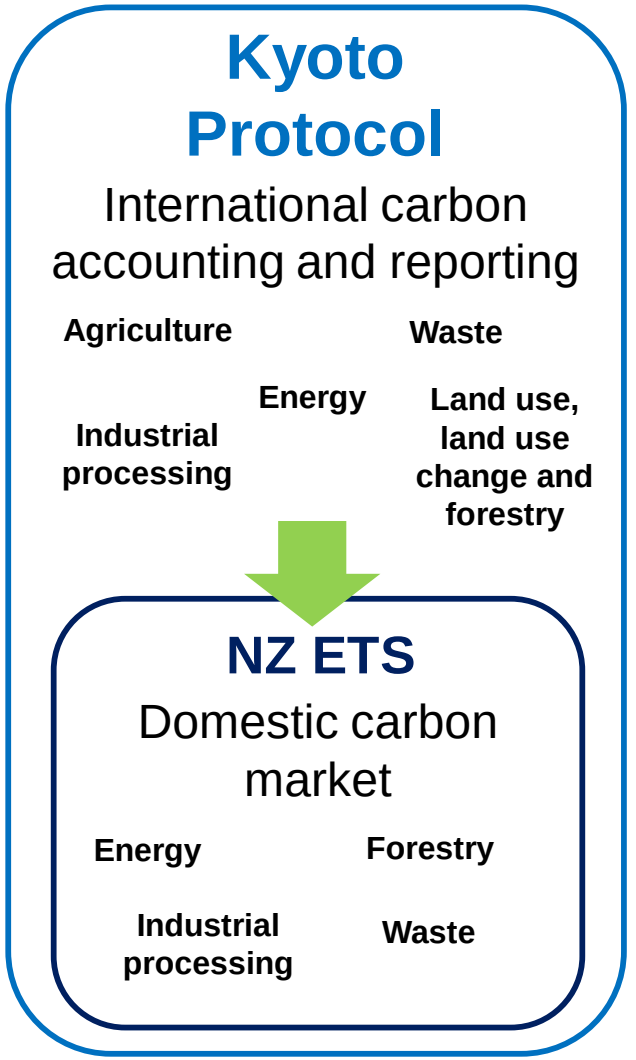
The schemes – ETS and PFSI

NZ's domestic carbon market

The Emissions Trading Scheme operates as the domestic carbon market.

The ETS is NZ's major policy to reduce emissions domestically to meet international obligations.

The settings of the ETS are closely related to what NZ agreed to internationally for carbon accounting and reporting.



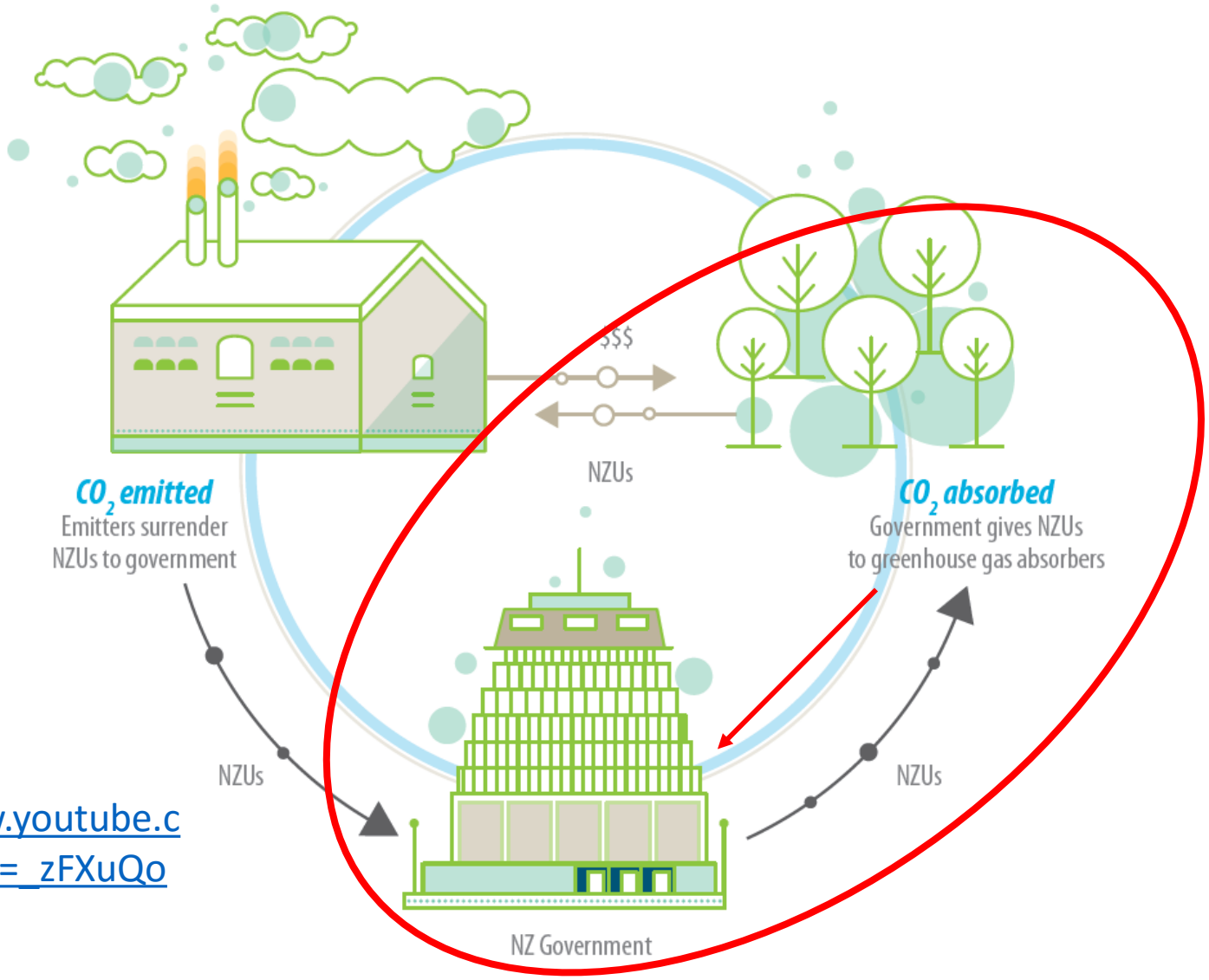
NZ carbon market design basics

1. **Put a price on greenhouse gas emissions**
   - **Obligations for emissions**
   - **Earn credits for sequestering carbon**

2. **New Zealand Unit (NZU) is the currency**
   - **1 NZU for 1 tonne CO2 equivalent**
   - **Traded through the Emissions Unit Register**

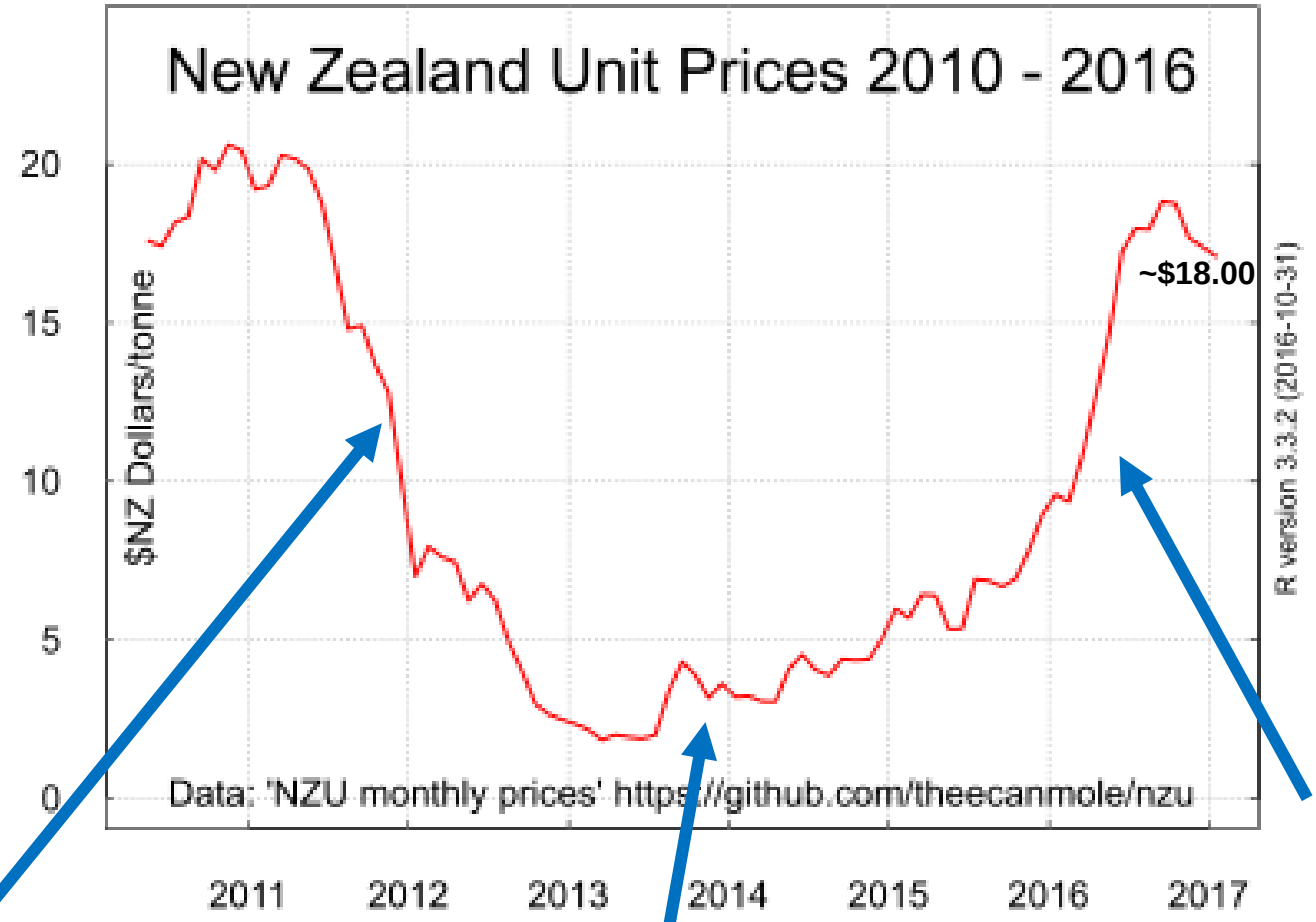
3. **Forestry, energy, industrial processing, and waste sectors fully included – agriculture reporting only**

How the domestic carbon market works



https://www.youtube.com/watch?v=_zFXuQoX6ps

NZU price trends

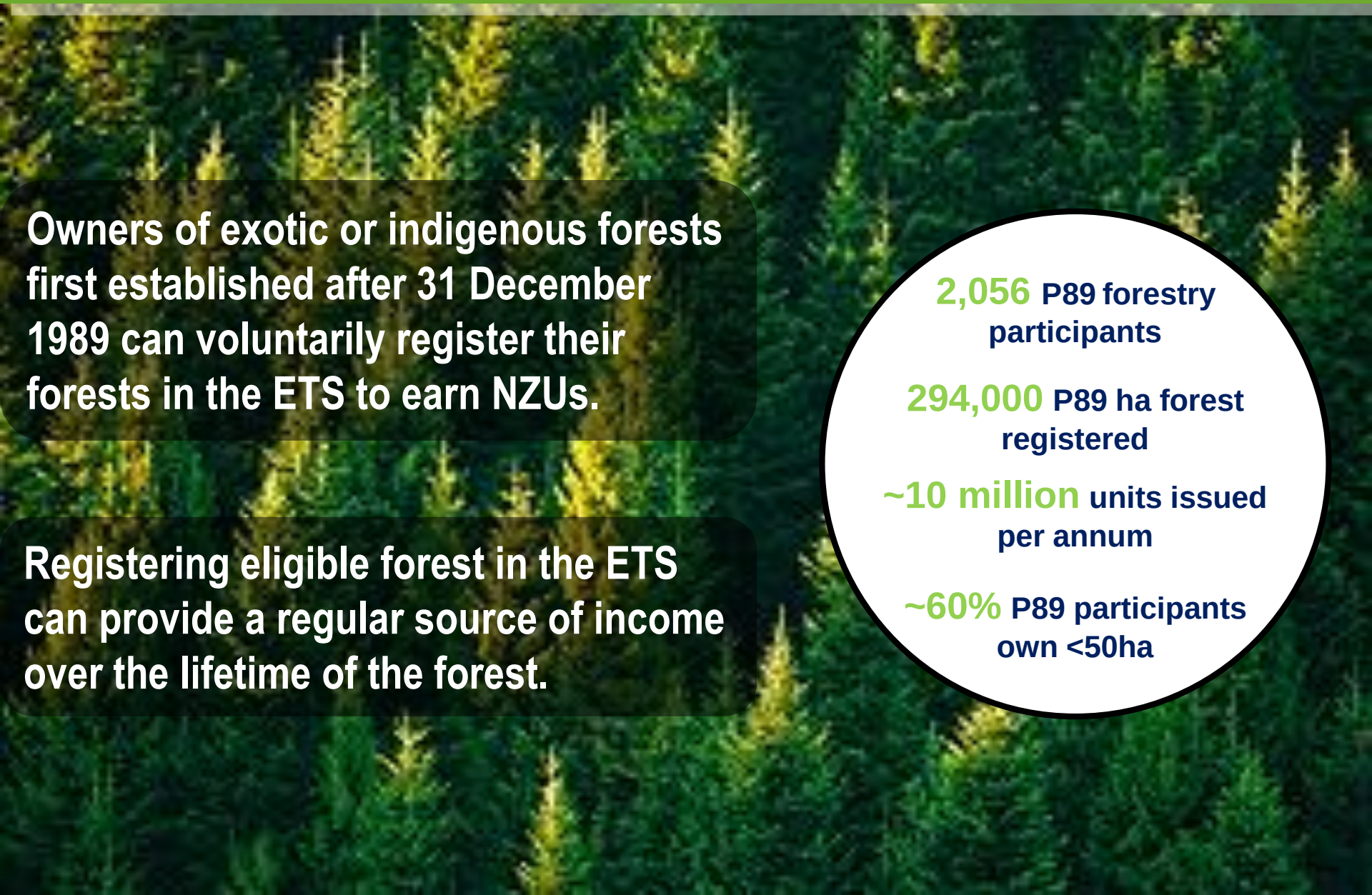


Price of international units collapses – followed by NZU

ETS unit restrictions introduced by Government

ETS review and Paris Agreement

The Emissions Trading Scheme



Owners of exotic or indigenous forests first established after 31 December 1989 can voluntarily register their forests in the ETS to earn NZUs.

Registering eligible forest in the ETS can provide a regular source of income over the lifetime of the forest.

2,056 P89 forestry participants

294,000 P89 ha forest registered

~10 million units issued per annum

~60% P89 participants own <50ha

Types of forest in the ETS

Two types of forest depending on year of first establishment

Baseline date =

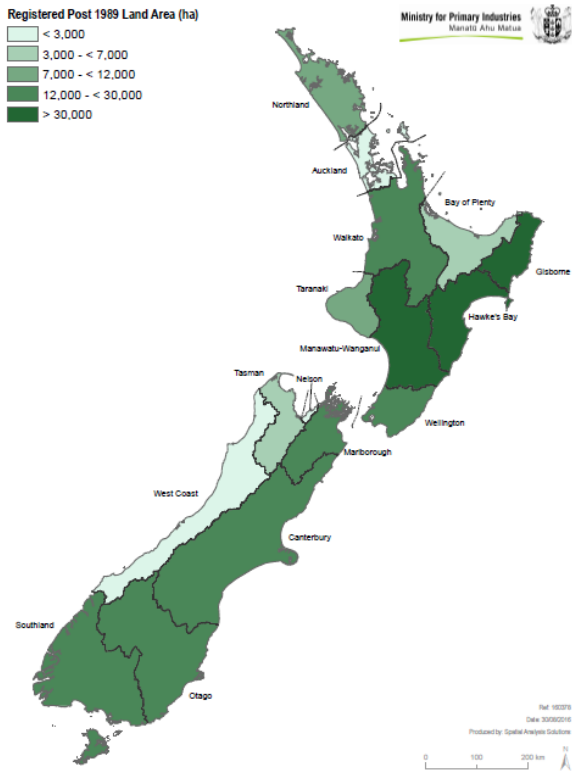
…1988 1989 **1990** 1991 1992 …

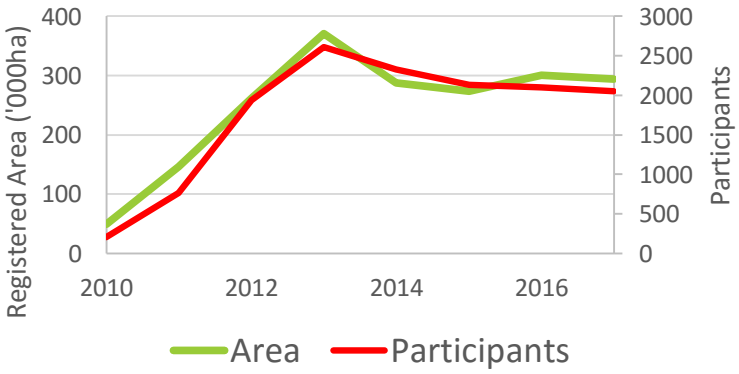
Pre-1990 forest in the ETS

- **Exotic forests established before 1 January 1990 are ‘pre-1990’ forest.**
- **Owners of pre-1990 forest must surrender NZUs in the ETS if they deforest (change land use)**
  - Some exemptions apply to owners of less than 50ha or if less than 2 ha is cleared in 5 years.
  - Owners of pre-1990 forest who registered received an allocation of NZUs to reflect the impact of the deforestation charges.
- **Indigenous pre-1990 forests on private land are not included in the ETS**
  - They are managed under the Resource Management Act and the Forests Act.

Post-1989 forest in the ETS

- **Forests established after 31 December 1989 are ‘post-1989’ forests.**
- **Post-1989 forests can be voluntarily registered in the ETS and earn NZUs.**
- **If a post-1989 forest is registered in the ETS, NZUs must be surrendered if it is harvested or deforested.**





Determining ETS eligibility for post-1989 forests

Is the forest primarily **forest species**?

- Can grow to at least 5m at maturity where it is planted (including mānuka and kānuka)
- **NOT** fruit or nut trees
- **NOT** gorse, broom or native shrubs

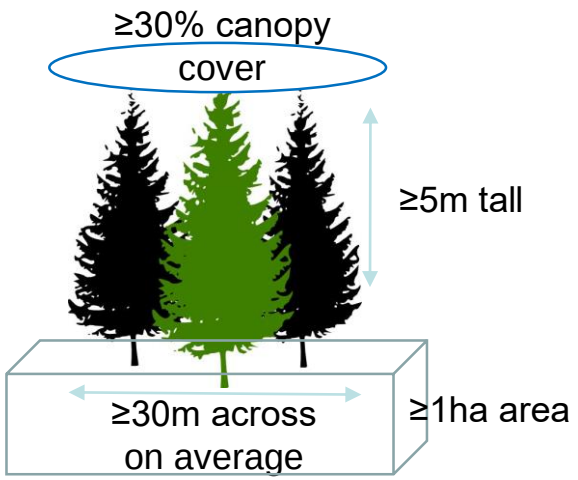
Does the land meet the definition of "**forest land**"?

- At least 1ha of forest species
- Tree crown cover of at least 30%* in each hectare
- Average tree crown cover width at least 30m*
- **NOT** shelterbelts or riparian strips <30m wide

Does it meet the criteria for '**post-1989**' forest land?

- Wasn't forest land on 31 December 1989 **OR**
- Was forest land but deforested between 1 January 1990 – 31 December 2007
- Has new forest established or is reverting to native forest since 1 January 1990

Eligible



* Gap between trees <15m (mapping standard)

Examples of eligibility

20 hectares radiata pine was planted in July 1990 into an area that was pastorally farmed since the 1960s. Livestock numbers before planting were enough to stop regeneration of any forest species.

This area is ‘post-1989’ forest land, established in July 1990.

5ha back paddock pastorally farmed since the 1960s, with enough livestock to stop regeneration of woody species. In early 1991 livestock were removed to let the area regenerate naturally. Extensive mānuka and kānuka seedling regeneration was visible over the whole area by the end of 1994.

This area is ‘post-1989’ forest land, established in 1994.

5ha steep gully was originally indigenous forest but was deforested and converted to farmland in the 1930s. It was farmed until the early 1980s then abandoned and was left to revert to indigenous forest and is still in forest today.

This area was established before 1990 so is NOT ‘post-1989’ forest land.

Registering post-1989 forest in the ETS

Get consent from interested parties

Written consent from those with registered interest in the land:

- Landowner
- Forestry right or lease

Open a holding account

With NZ Emissions Trading Register where units will be deposited and transferred (like a bank account).

www.emissionsregister.govt.nz

Apply to register with MPI

Online using MPI's system

Or

Via mail – get an application form from MPIs website

$562.22

Map your forest

You will need to submit a shp.file of your intended forests.

Use MPIs mapping tool

Or

Create your own using GIS tool

Submit to MPI

MPI will:

- Check land titles
- GIS assessment for eligibility
- Seek clarification if needed
- Seek additional information if needed
- Notify approved areas

Call 0800 CLIMATE option #3 if you have problems

Emissions returns

An **emissions return** is a calculation of the **change in the forest's carbon stock** over a time period. Emissions returns are $102.22 per return.

This is worked out using:
- ETS look up tables, or
- Field Measurement Approach

Mandatory Emissions Return

- **must submit at the end of every return period** (~5 years, next is Dec 2017), and
- **when making changes** to your registration (e.g. removing forest, granting a forest right, or selling forest).

Voluntary Emissions Return

- can submit every year (Jan-July) to claim units for previous years.

Tell MPI if you are buying, selling or transferring post-1989 forest land registered in the ETS.

Registered post-1989 forest land will appear on the land title as 'CCR'.

Measuring carbon for Emissions Returns

Forests <100 ha

Default ETS Look-up tables

1. Determine the age (year of planting = year 1)
2. Take difference in CO2 between return years

Carbon stock per hectare for *Pinus radiata* by region

Age (yrs)	H/SNI
0	0
1	0.5
2	3
3	9
4	34
5	71
6	113
7	155
8	185
9	197
10	210
11	233
12	260
13	291
14	325
15	361

Difference = annual CO_2

= 25 Tonne CO2

Forests ≥100 ha

Field Measurement Approach

1. MPI allocates sample plots
2. You establish the plots, measure variables and send data to MPI
3. MPI develops your participant-specific growth table

Carbon stored in forests

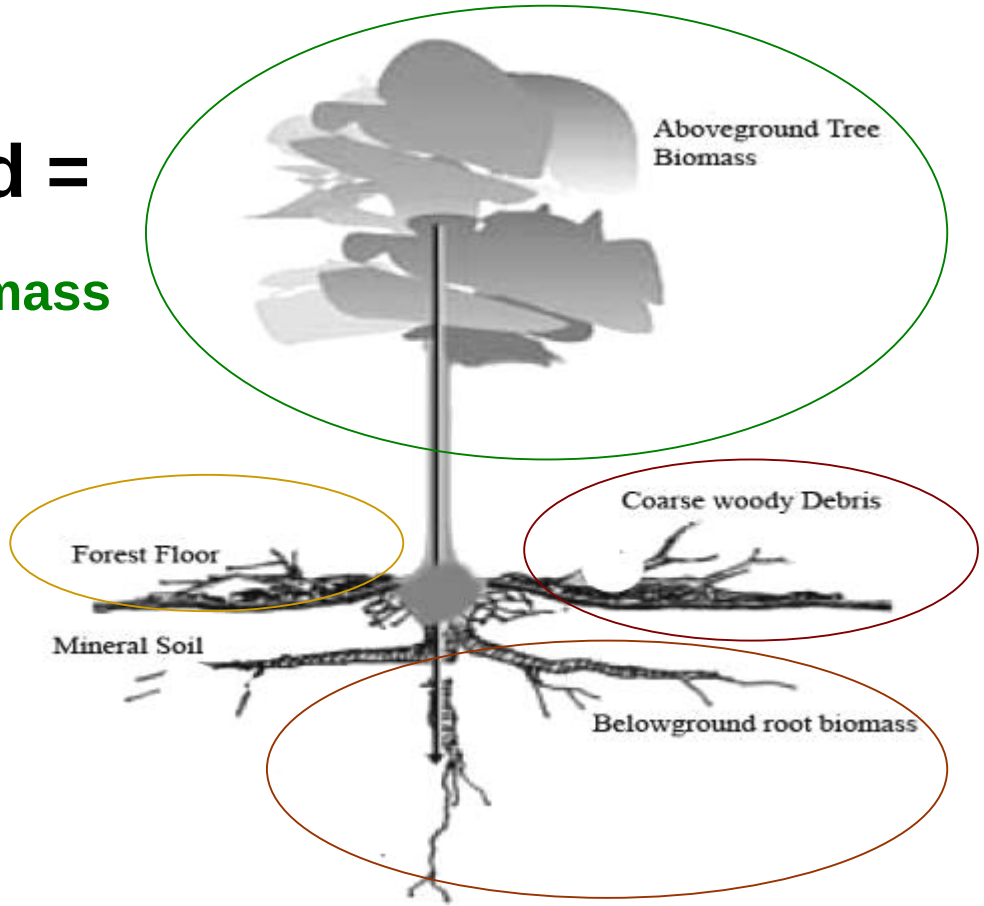
Total Carbon Stored =

+ Above ground tree biomass

+ Coarse woody Debris

+ Forest Floor/Litter

+ Below ground biomass

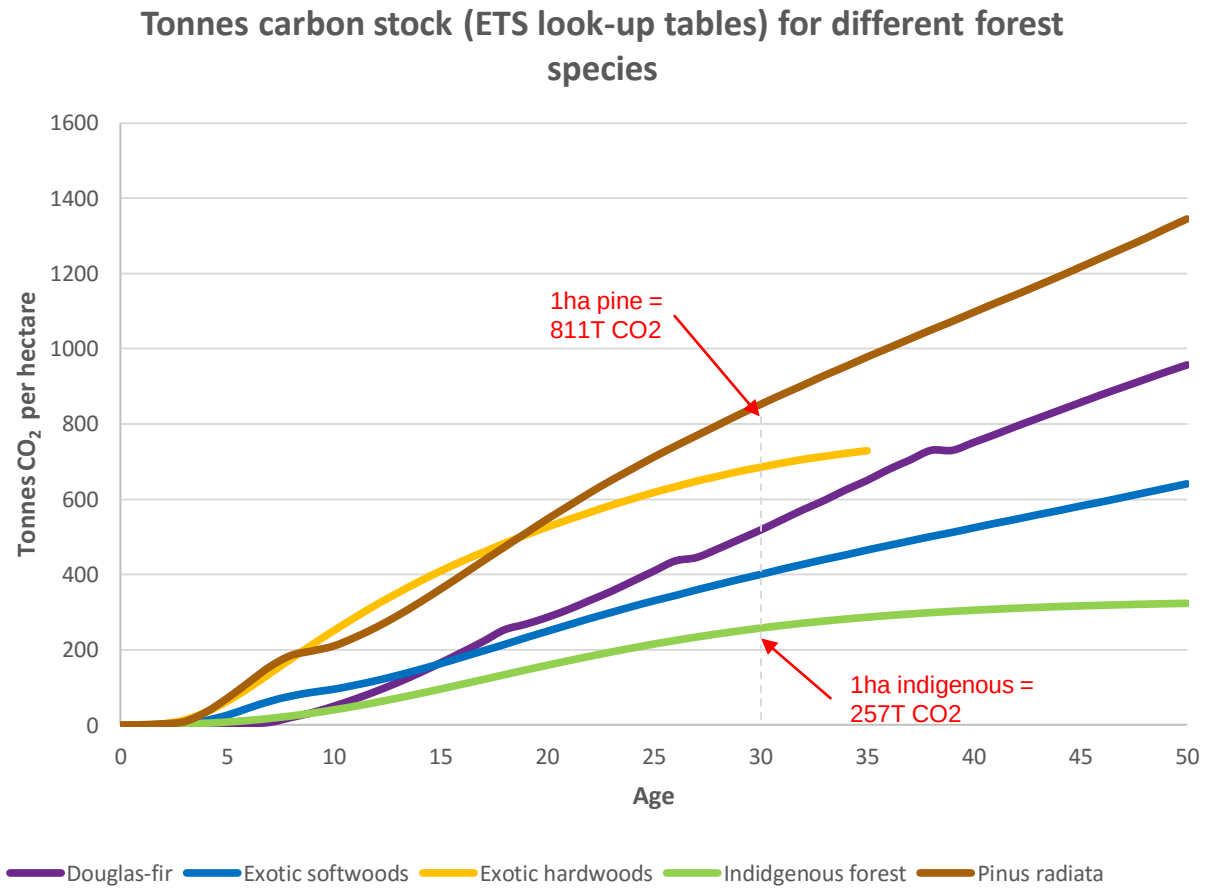


Species impacts CO2 stored and units earned

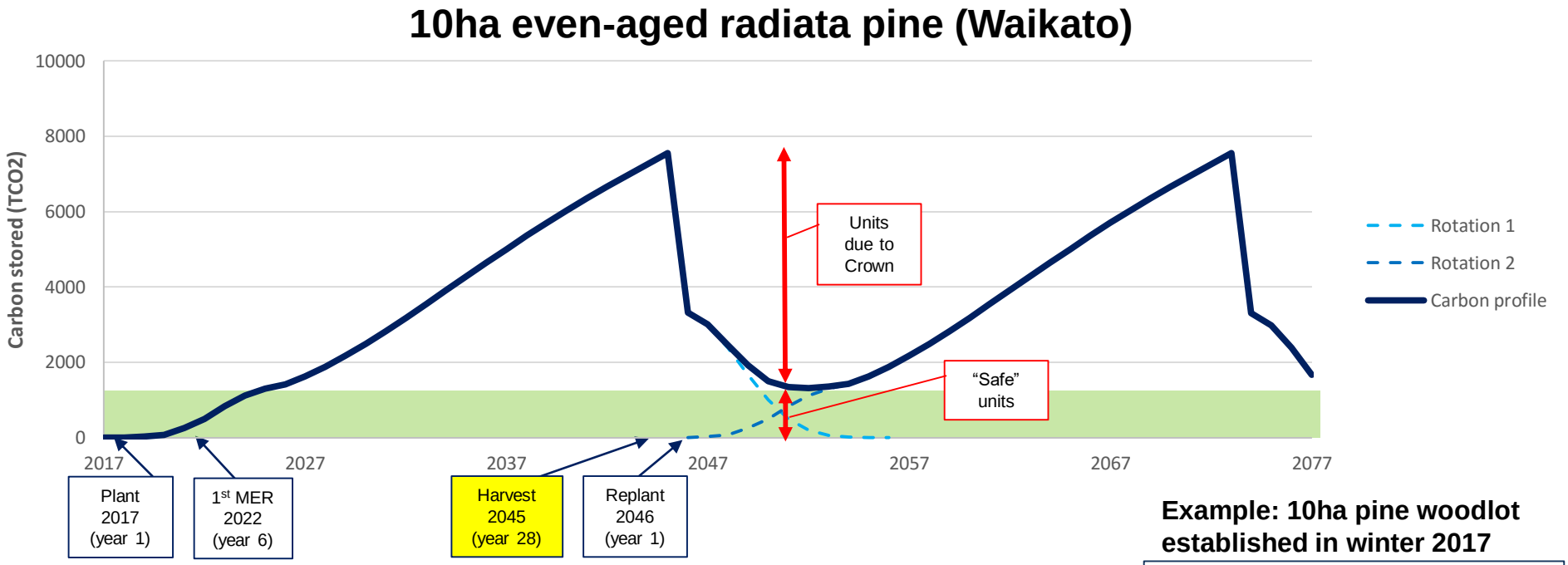
Different species accrue carbon at different rates

Exotic species tend to grow quickly so accrue carbon faster.

Indigenous forest tends to grow slowly so accrues carbon slowly.



Example: New single 10ha pine woodlot



MER Period	Age (end of period)	Carbon stock change (TCO2)	Unit entitlements	Units to surrender	Unit balance
1) 2018-2022	6	836	836	0	836
2) 2023-2027	11	1040	1040	0	1876
3) 2028-2032	16	1660	1660	0	3536
4) 2033-2037	21	1820	1820	0	5356
5) 2038-2042	26	1600	1600	0	6956
6) 2043-2047	2	-4282	0	-4282	2674
7) 2048-2052	7	-575	0	-575	2099
8) 2053-2057	12	77	77	0	2176

Example: 10ha pine woodlot established in winter 2017

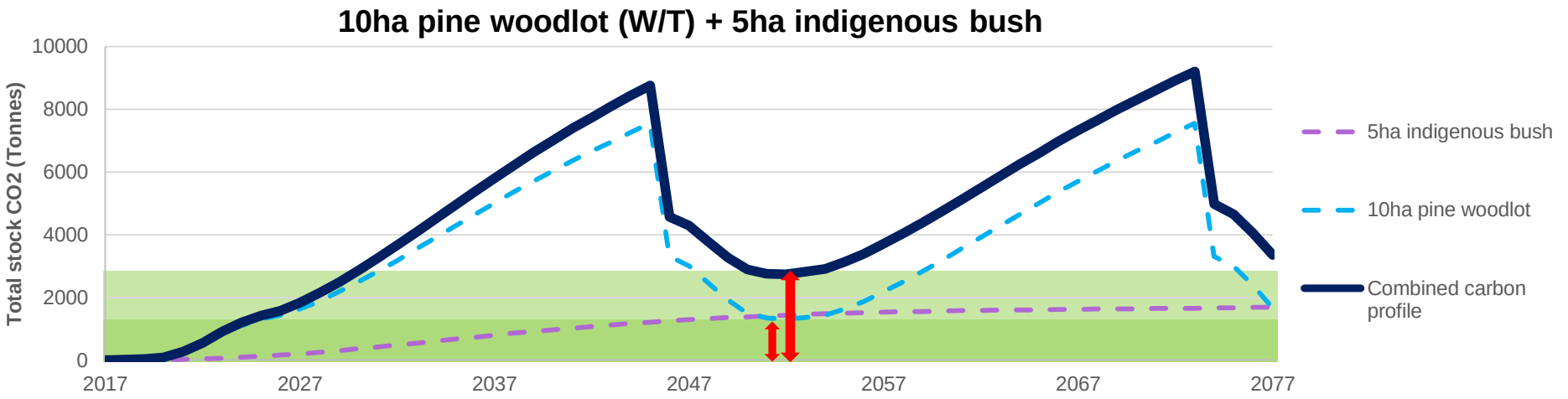
1st MER in 2022 can claim units back to Jan 2018 = **836 units earned** (about $15,000 @ $18NZU)

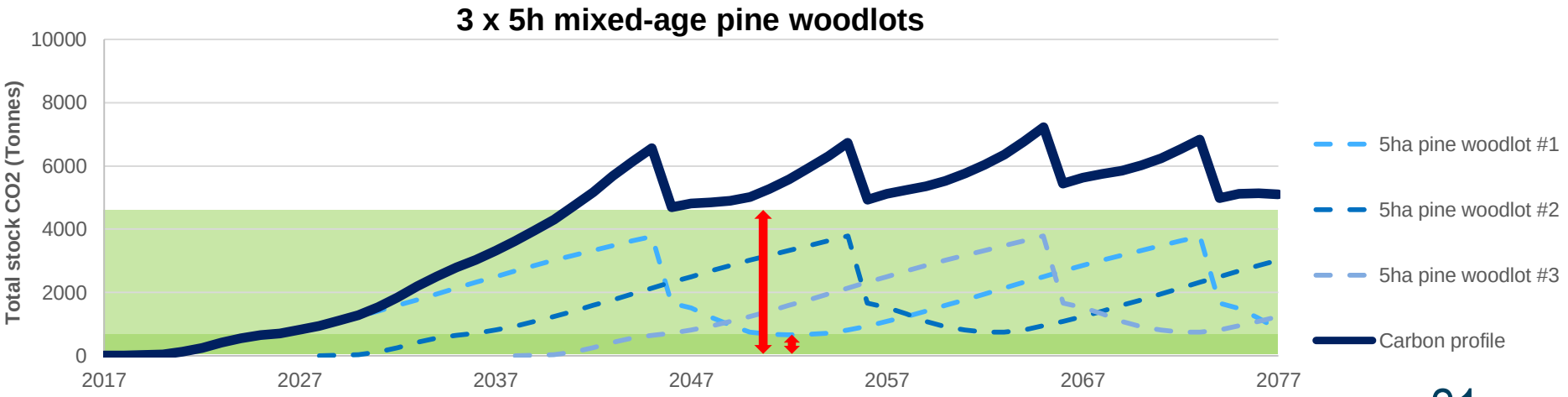
Harvest at 28 years and replant following year = **4282 units due** end of 2047 (MER #6) and **575 units due** end of 2052

If the forest is **deregistered after harvest the** entire unit balance is due (**6956 units**)

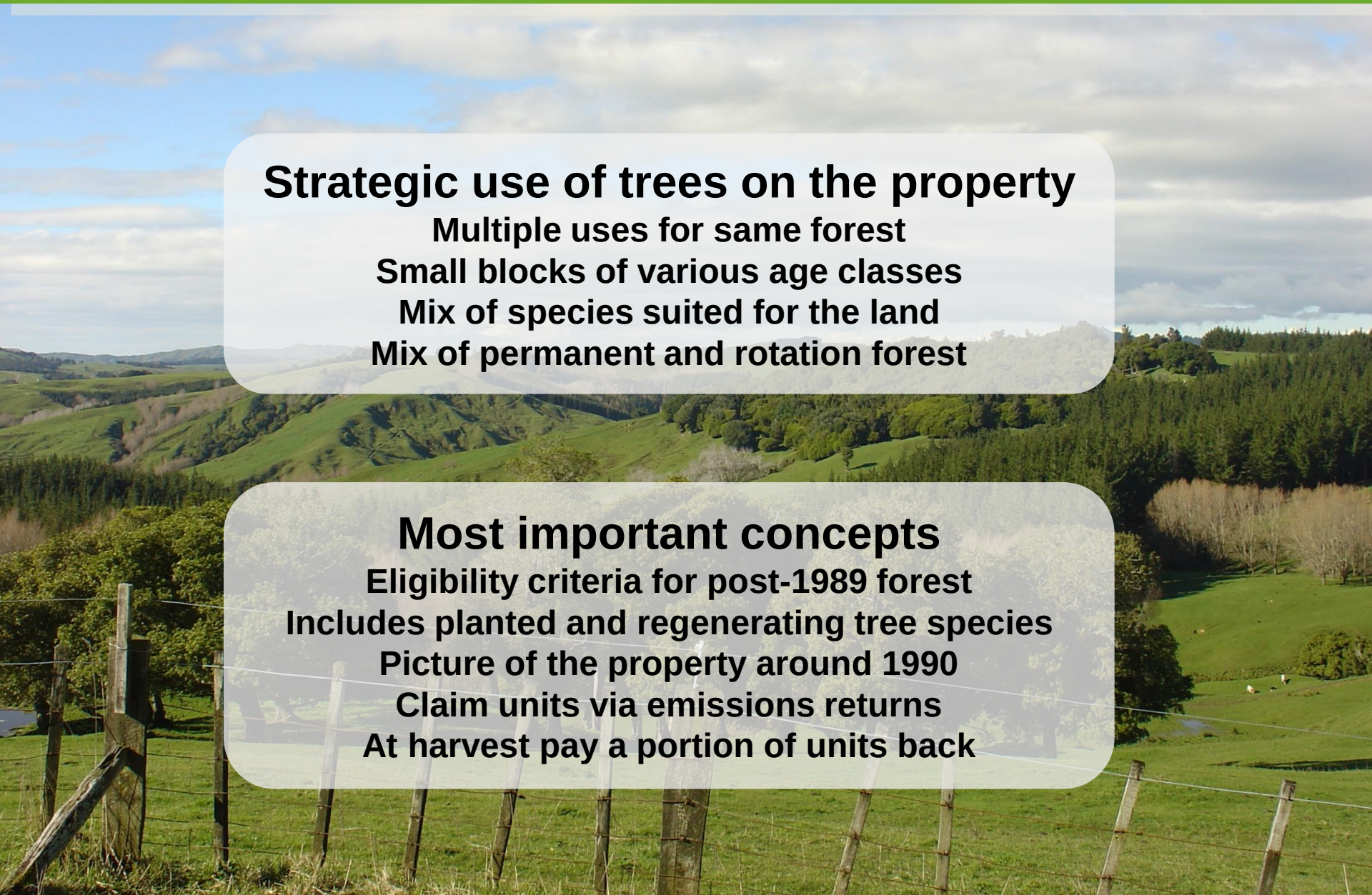
Example: Mixed-age or mixed species

Combine multiple blocks of different species or age classes to store more carbon and repay fewer units at harvest.





ETS key concepts for farm forestry



Strategic use of trees on the property

Multiple uses for same forest
Small blocks of various age classes
Mix of species suited for the land
Mix of permanent and rotation forest

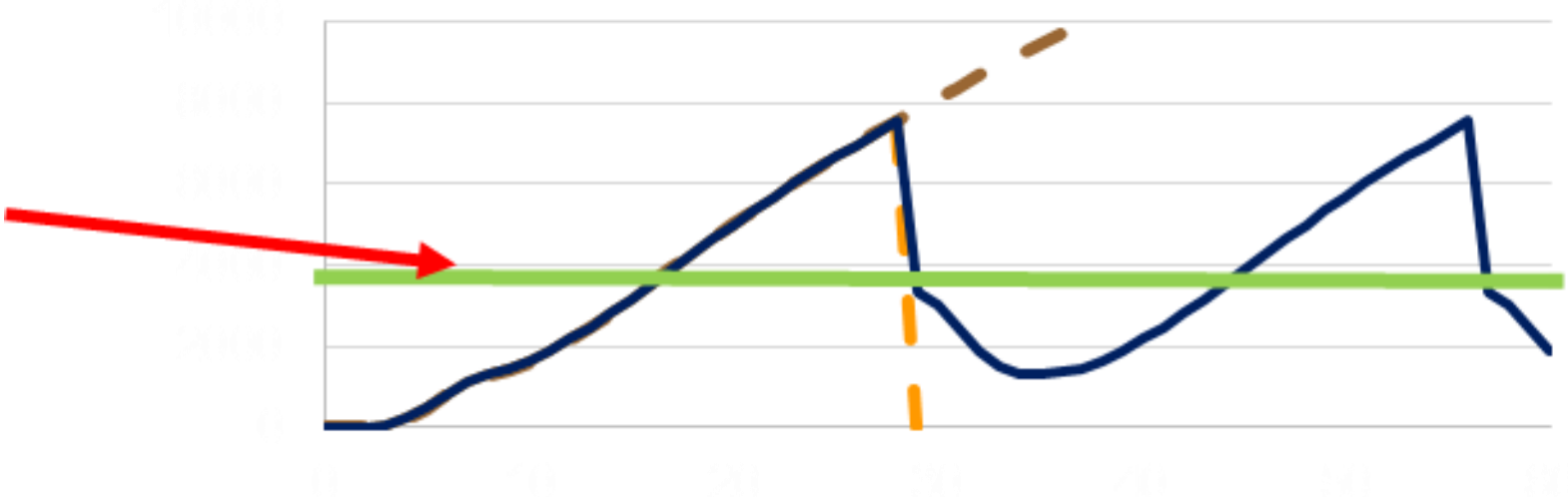
Most important concepts

Eligibility criteria for post-1989 forest
Includes planted and regenerating tree species
Picture of the property around 1990
Claim units via emissions returns
At harvest pay a portion of units back

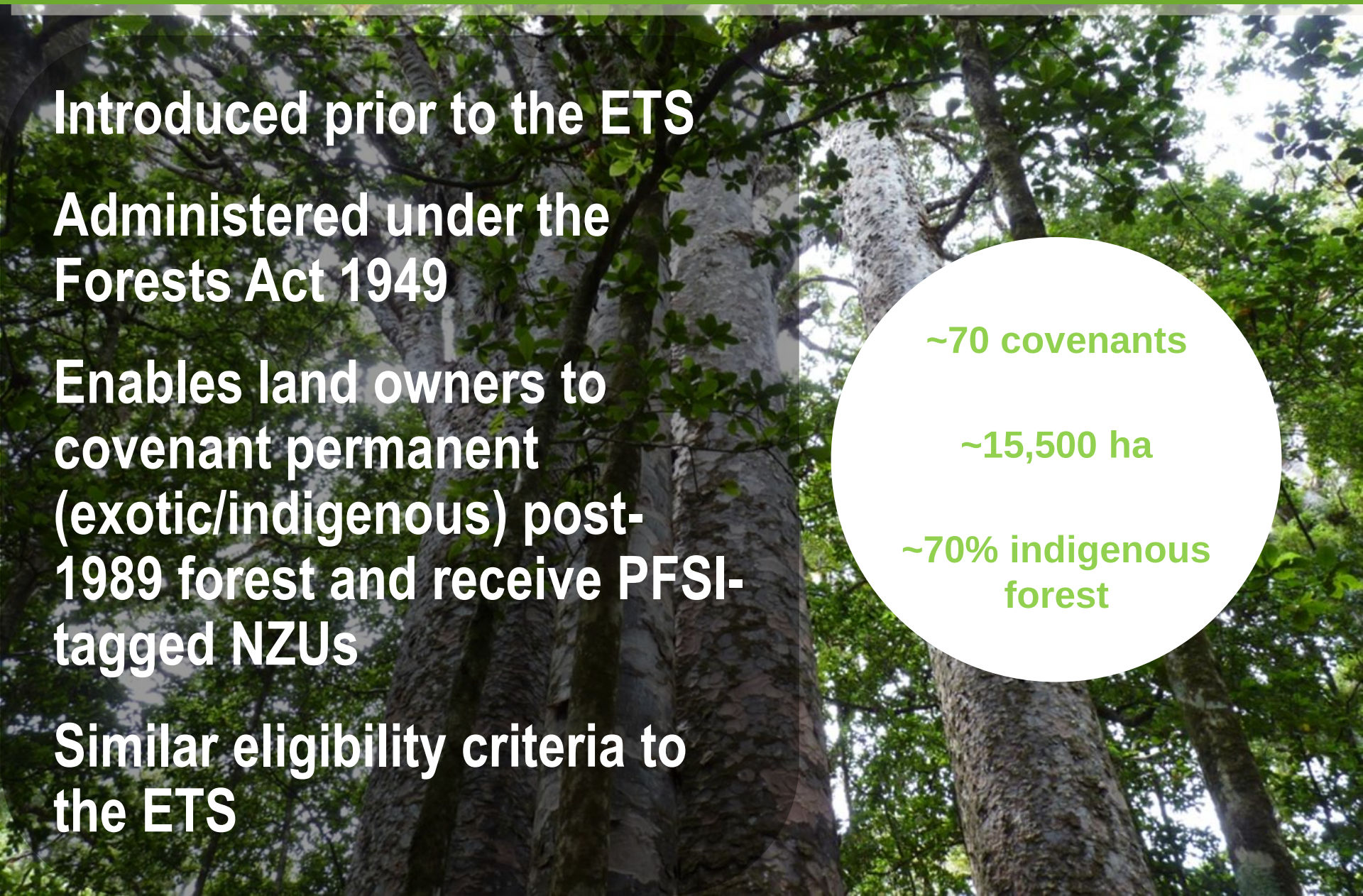
ETS review

Four key proposals:

1. **Fully remove “1 for 2”**
2. **Accounting for harvested wood products**
3. **Technical ETS changes**
4. **Consider averaging accounting**



The Permanent Forest Sink Initiative (PFSI)



- Introduced prior to the ETS
- Administered under the Forests Act 1949
- Enables land owners to covenant permanent (exotic/indigenous) post-1989 forest and receive PFSI-tagged NZUs
- Similar eligibility criteria to the ETS

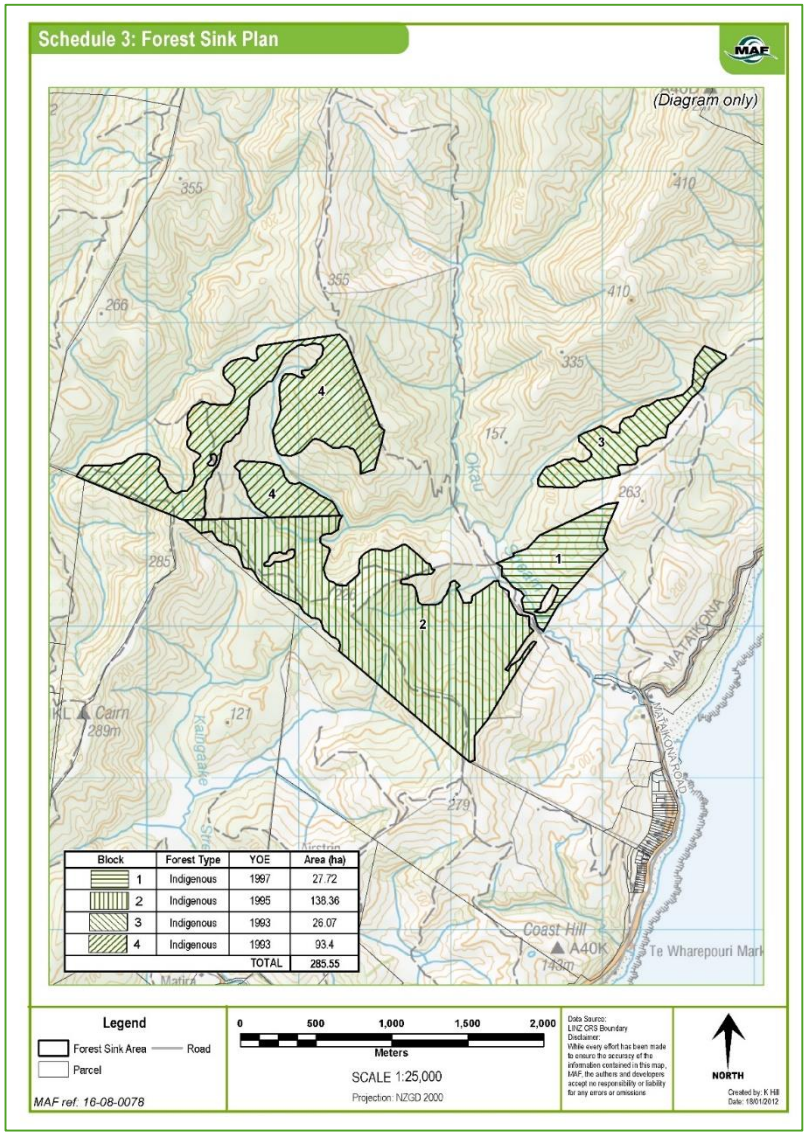
~70 covenants

~15,500 ha

~70% indigenous forest

PFSI Covenant

- Covenant registered on land title in perpetuity
- Ability to terminate after 50 years
- Covenant includes a forest sink plan for establishment and management of a permanent forest
- Continuous canopy cover harvesting permitted (up to 20%/ha)
- Harvesting restriction removed after 99 years



Eligibility for the PFSI

Similar to the ETS

Land meets the definition for 'post-1989' forest land ✓

Carbon accounting ✓

With a key difference

NOT land that was cleared of >5ha naturally occurring indigenous species after 1 December 2007 ✗

More info on the MPI website https://mpi.govt.nz/funding-and-programmes/forestry/permanent-forest-sink-initiative/

PFSI review

MPI-led review

Similar timeframes to the ETS review

Two key proposals:

1. **Move administration from the Forests Act to the Climate Change Response Act (to reduce administrative burden)**

2. **Retain the covenant as a point of differentiation to the ETS**


Questions?

The Afforestation Grant Scheme

Basics of the AGS

Eligibility for the AGS

Forest and carbon schemes available

National schemes

Emissions Trading Scheme (ETS) → NZUs for existing and new forest

Permanent Forest Sink Initiative (PFSI) → NZUs for existing and new forest

Afforestation Grant Scheme (AGS) → Grant for new forest

Regional schemes

Hill Country Erosion Fund → Grants for erosion treatment

Erosion Control Funding Programme (Gisborne only) → Grant for new forest

Afforestation Grant Scheme basics

To improve land-use productivity and contribute to regional economic development

Target of 15,000 hectares of new forest

$19.5 m available until 2020

Successful applicants receive $1,300 per hectare of land planted in forest

10 year Grant Agreement with the Crown

Crown retains units for 10 years (can't enter ETS/PFSI)

AGS progress

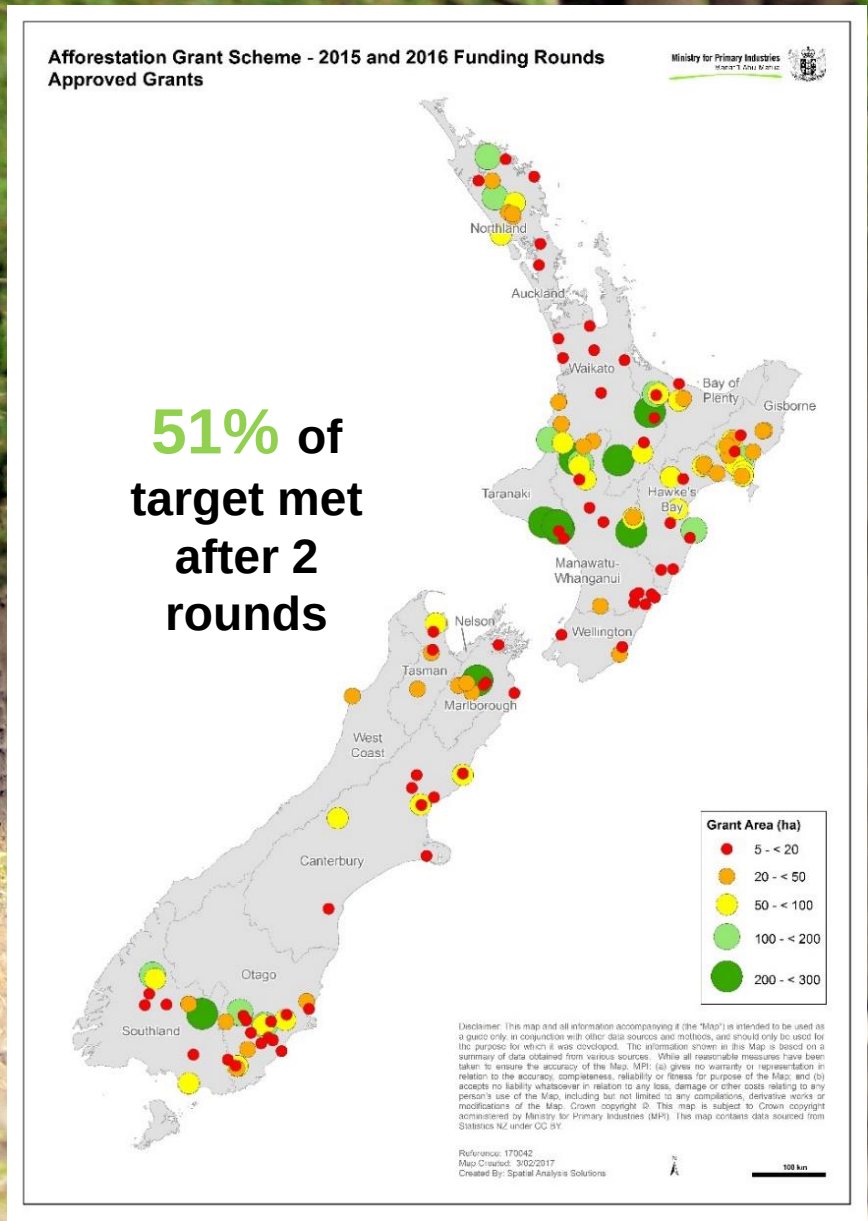
2015 round

2,900 ha
winter 2016 planting

2016 round

4,800 ha
winter 2017 planting

51% of target met after 2 rounds

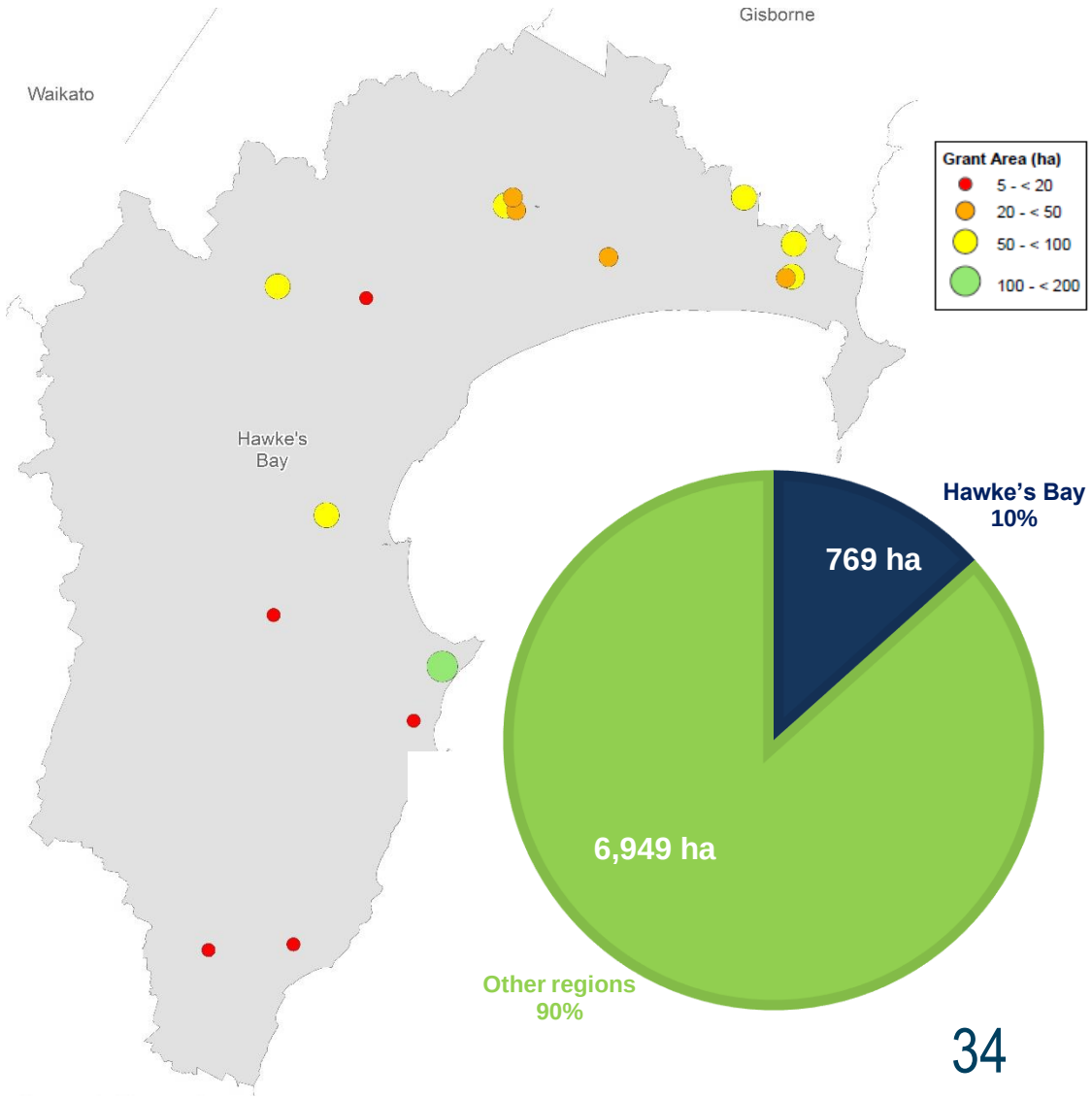


AGS in the Hawke's Bay

1,859 ha planted in Hawke's Bay under the previous AGS (2008-2013)

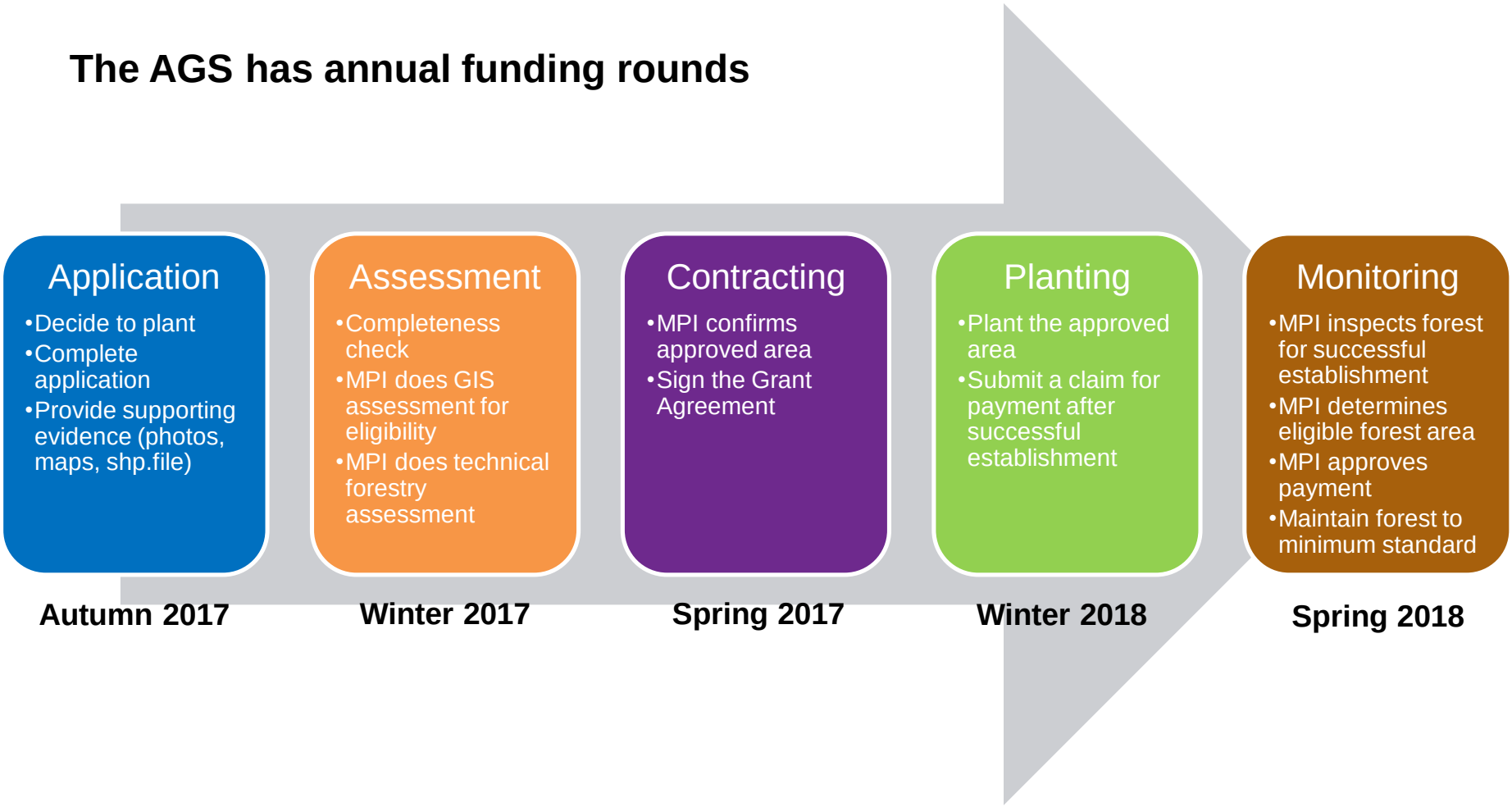
769 ha contracted in Hawke's Bay in 2015 and 2016 under the current AGS

Hectares contracted in Hawke's Bay under the AGS (combined 2015 and 2016)



The AGS process

The AGS has annual funding rounds



AGS applications and technical assessment

Timing

- Funding rounds are for planting in winter the following year
- Planting must only cover 1 year

Format

- Both electronic and paper application forms and maps accepted
- Farm Plan or supporting letter from council not required but VERY helpful

Planting criteria

- Indigenous and exotic species accepted
- Must meet the ‘tree species’ definition in the CCRA (5m+)
- Minimum of 750 stems/ha established (species dependent)
- Must be suitable to the site and conform to local government plans
- Must not pose a wilding risk
- Mixture of species accepted

Eligible land for the AGS

Example: this 6ha block has been continuously grazed since the early 1960s, preventing regeneration.

Eligible land

- 5 - 300 hectares total
- Is not currently forest land and was not forest land within the five-year period prior to the application
- Can meet the post-1989 forest definition

Example: regenerating mānuka has been present in this 5ha back block since 2014.

Ineligible land

- Was forest land on 31 December 1989
- Was forest land within the five-year period prior to application
- Already meets forest land definition
- Pre-1990 offsetting land under the ETS
- Area less than 1 ha and/or 30 metres wide on average
- Already in another government scheme (ETS or PFSI)

AGS 2017

Key resources www.mpi.govt.nz/ags

- Guide to the Afforestation Grant Scheme
- Sample application form
- Applicant checklist
- FAQs
- Call 0800 00 83 33 or email funding@mpi.govt.nz

How the schemes fit together

	ETS	PFSI	AGS
Forest type	Rotation/permanent forest	Permanent forest	Rotation/permanent forest
Species type	Exotic/indigenous	Exotic/indigenous	Exotic/indigenous (planted only)
Forest size	1ha +	1ha +	5ha – 300ha
Agreement type	No contract	Covenant 50 years	Grant Agreement 10 years
Units	Earn NZUs	Earn NZUs (tagged to PFSI)	No NZUs
Harvesting	No harvest restrictions	Restricted harvesting (20%)	N/A
Maintenance	No forest maintenance	Maintain forest to minimum standard	Maintain forest to minimum standard
Exiting	Exit any time (repay units)	Can exit after 50 years (repay units)	Automatic after 10 years
Grant available	No grant	No grant	Grant $1300/ha
Liabilities	Carbon liabilities	Carbon liabilities	No carbon liabilities
Land title	CCR registered on title	Covenant registered on title	Not on title

Questions?