# Overview of forestry in the Emissions Trading Scheme

[NAME

ROLE]

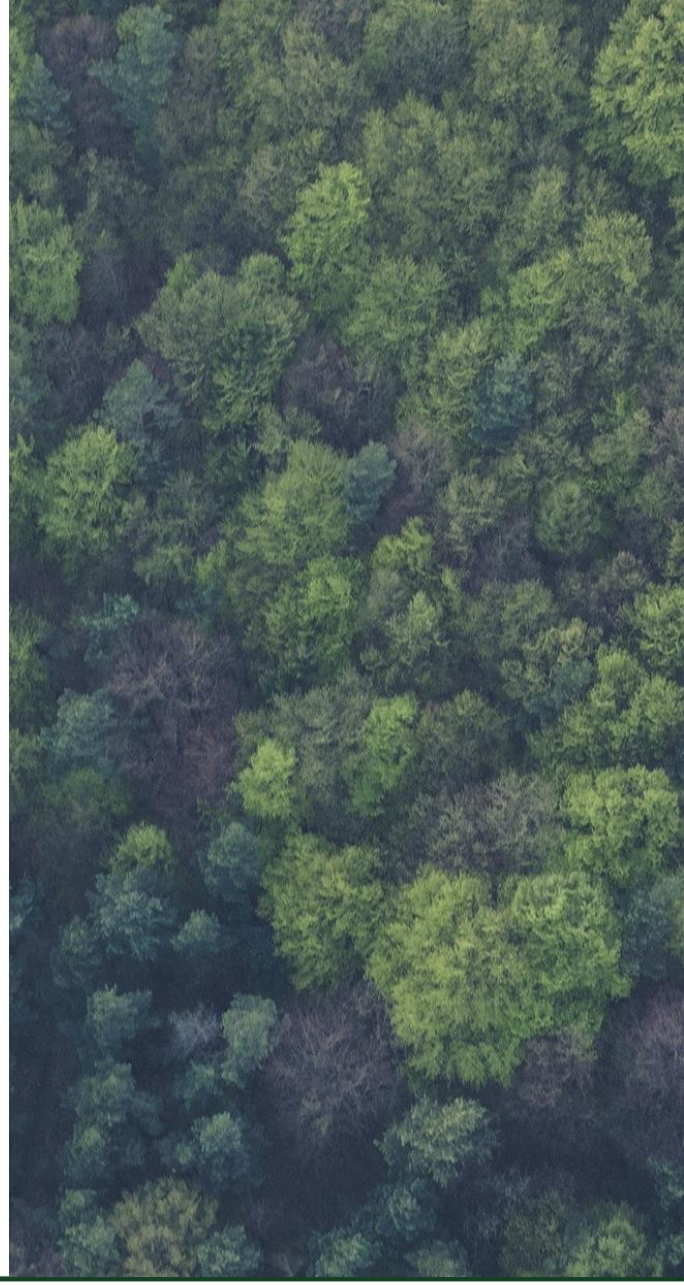
[Month] 2020

Ministry for Primary Industries
Manatū Ahu Matua

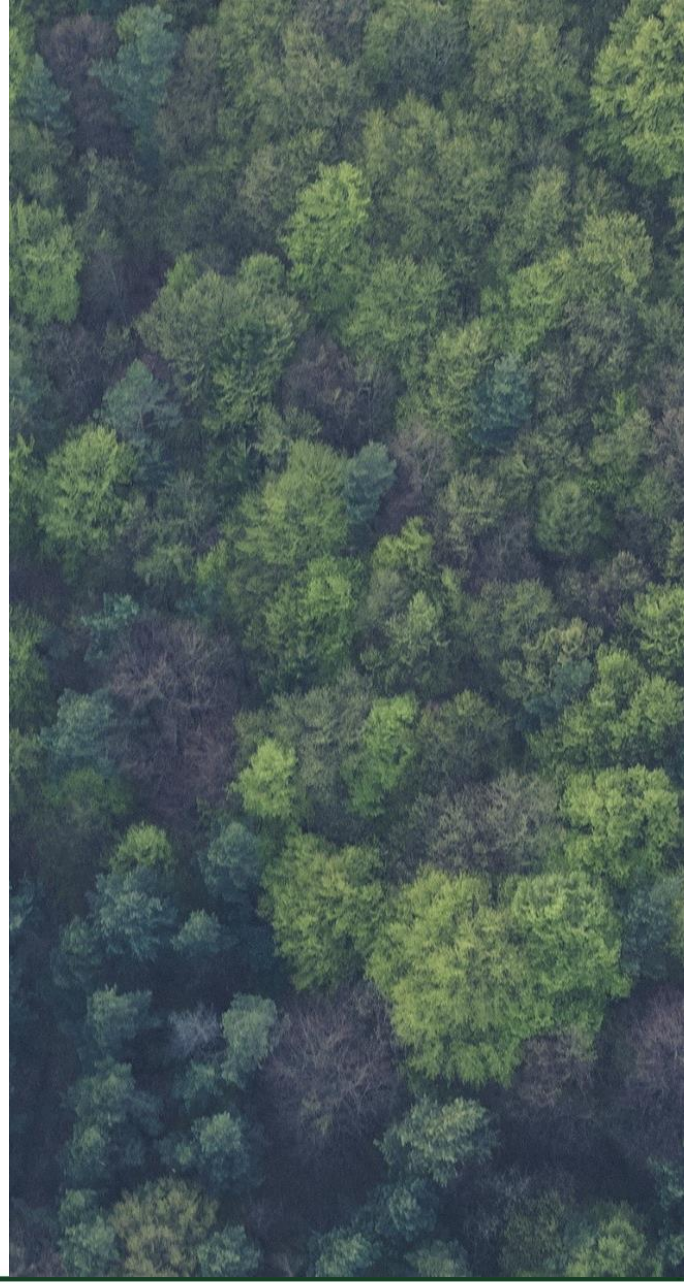
Te Uru Rākau
Forestry New Zealand

# Agenda

- **Part 1: How the ETS works**
- **Part 2: Forests in the ETS**
- **Part 3: Voluntary participation options in the ETS**



# Part 1:
# How the ETS works

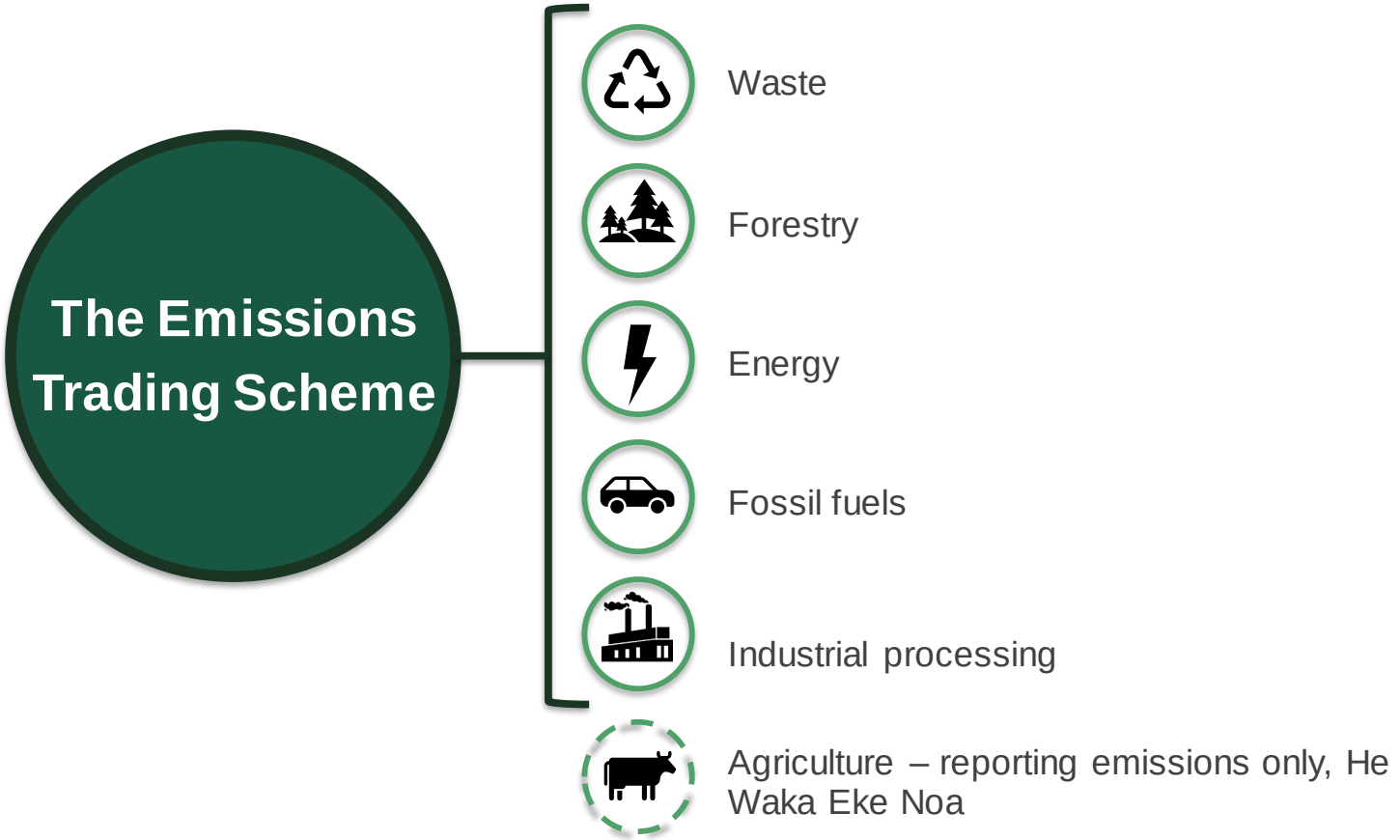


# Overview of the ETS

ETS is NZ's primary action to reduce net emissions and meet climate change targets

Acts as NZ's domestic carbon market

Different to what NZ reports on and accounts for internationally for emissions



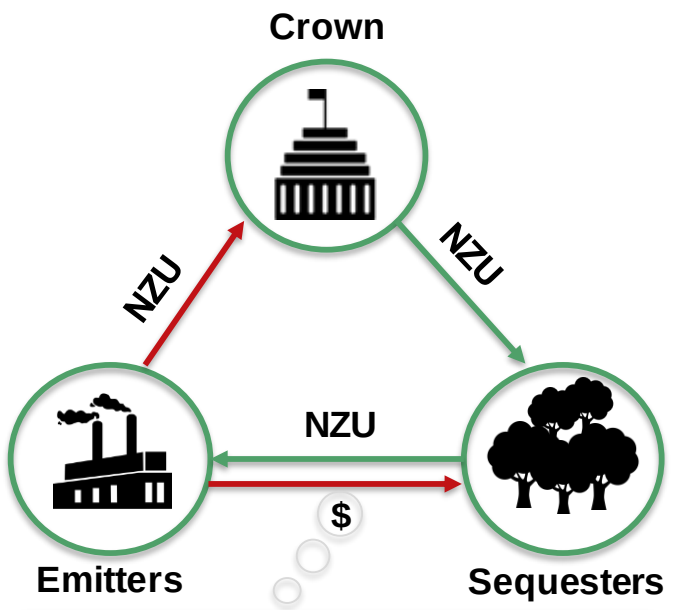
# How does the ETS work?

1. **The Government issues New Zealand Units (carbon credits) to sequesters of carbon such as new forest owners.** Sequesters can keep these units or sell them on the market.

2. **Emitters of greenhouse gases must pay New Zealand Units to the Government for their emissions.** They must purchase units from the market (from sequesters) if they do not have enough.

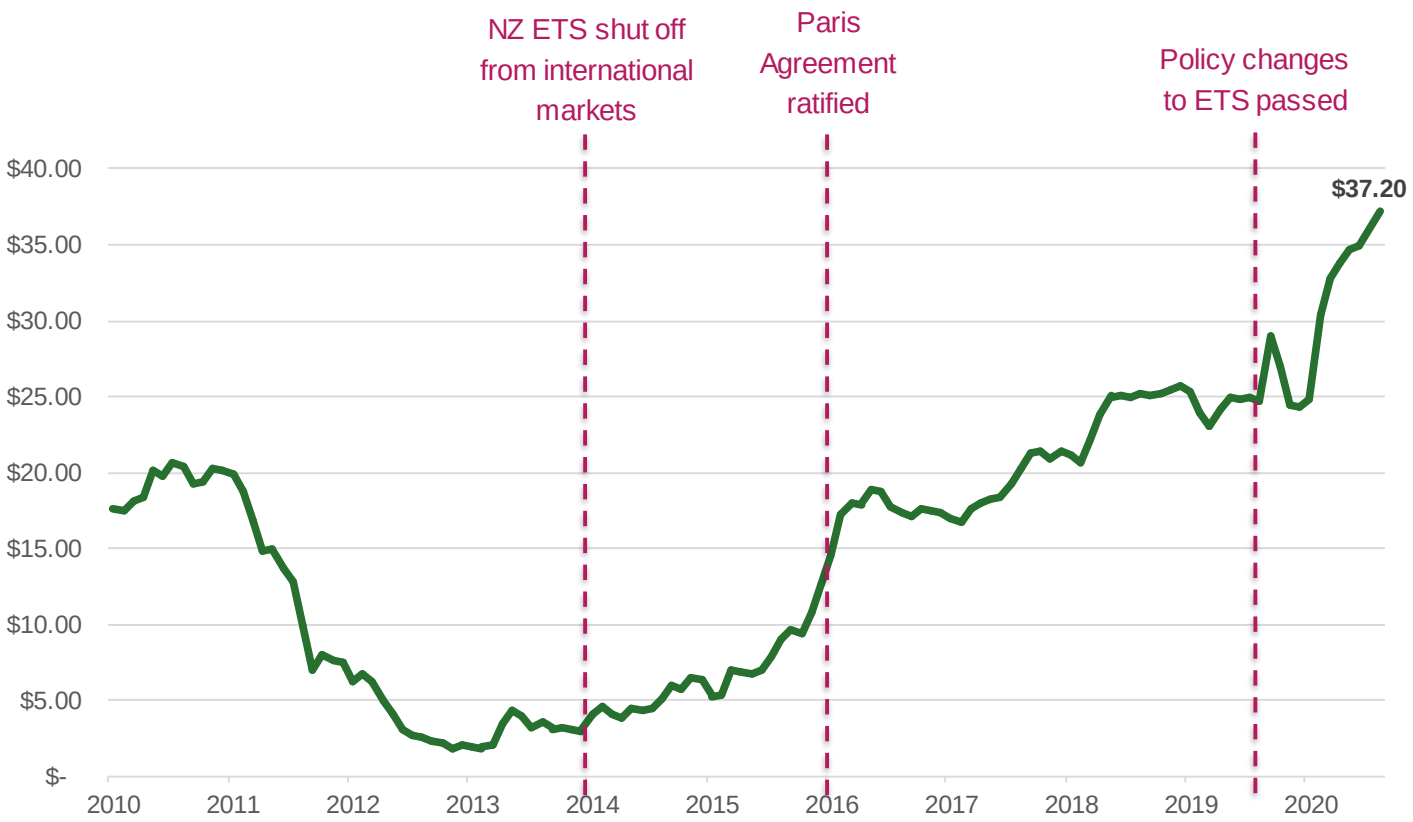
3. **The market price of the New Zealand Unit is set by the supply and demand of units**
   1 NZU = 1 tonne carbon (or equivalent other gases).

**Domestic carbon market**




The price emitters are willing to pay, and sequesters are willing to sell is the market value of the NZU 'the carbon price'

# Carbon pricing



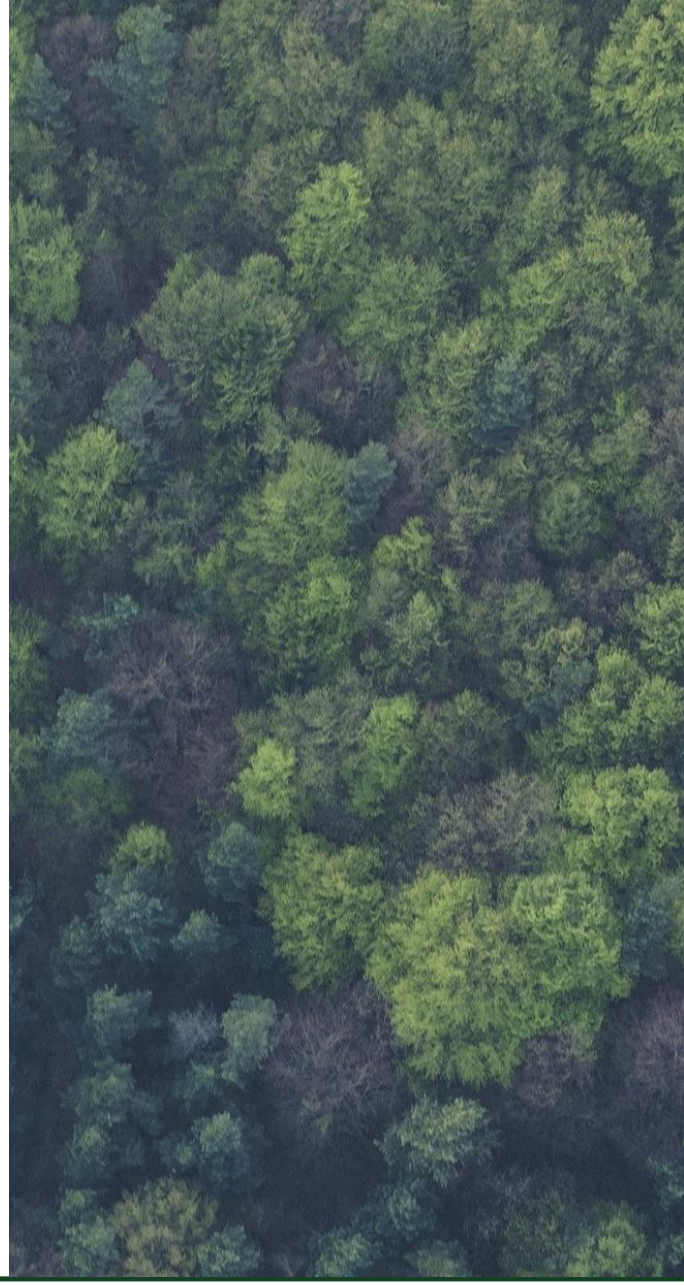

NZU price 2010-present

Carbon price is determined by supply and demand of units

There are now controls in place to better regulate the carbon price

Auctioning controls the supply of units into the market and has minimum unit price of $20.

# Part 2:
# Forests in the ETS

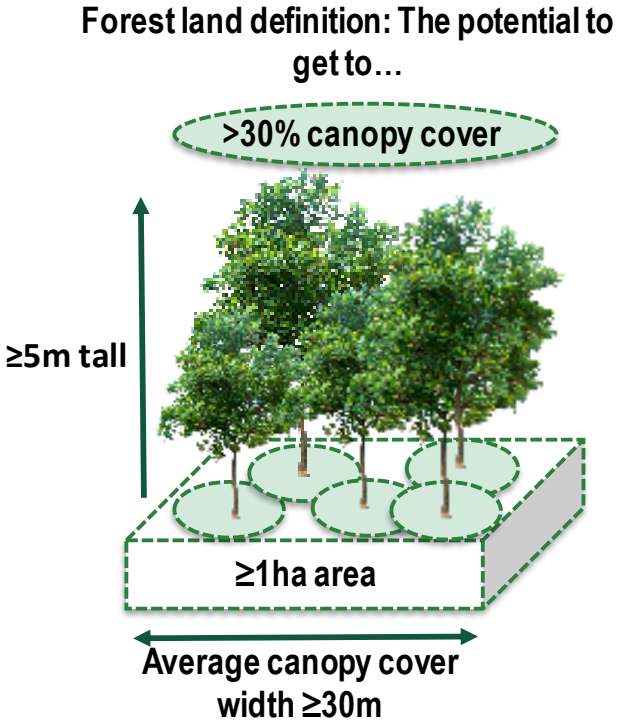


# What is a “forest” in the ETS?

**There is a specific definition of “forest” in the ETS. This differentiates between land being used as a forest and other trees in the landscape.**

A forest in the ETS:

- Is made up of **1ha or more of forest species** (a “forest species” can grow to at least 5m height at maturity where it is located);
- Can achieve **tree canopy cover of more than 30% in each hectare** at maturity; and
- Can achieve an **average tree canopy width of at least 30m** at maturity.



# Forests in the ETS

Planting more forests is one of the cheapest ways for New Zealand to meet our emissions reduction targets

When new forests grow they store (sequester) carbon at a fast rate
**We need both fast-growing and slow-growing species to meet our short and long term targets**

Owners of eligible forests can register their forest in the ETS to earn units for new sequestration
**They can use their units to offset their own emissions or sell them on the market**

When forests are cleared they release carbon back to the atmosphere
**Deforestation (changing land use) is an emission**

# Two kinds of forest

**The baseline date for net emissions is 1 January 1990 – agreed in the Kyoto Protocol – this creates two kinds of forest which are treated differently in the ETS.**

## Pre-1990

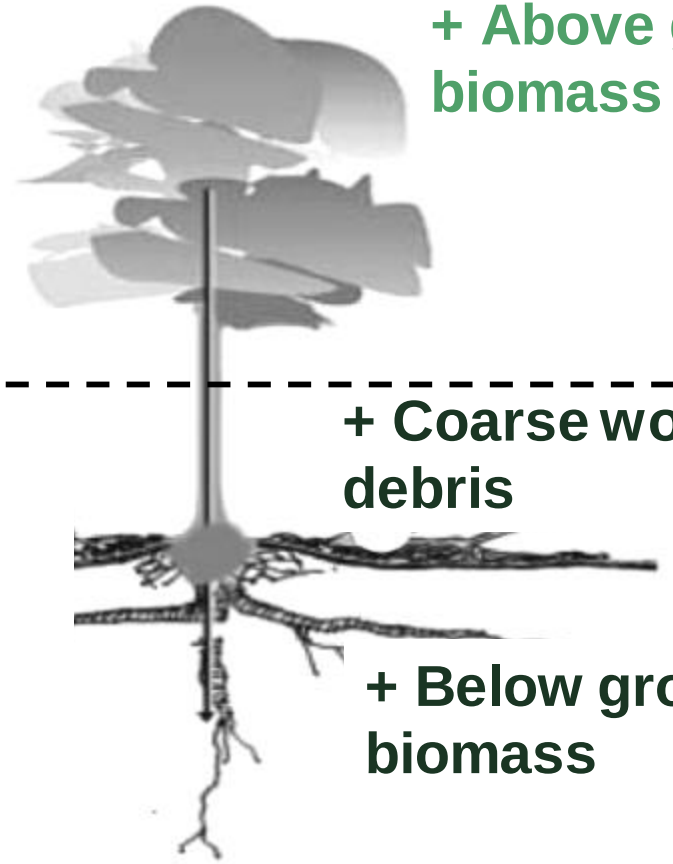
- Forest established before 1 January 1990 and land still in exotic forest on 31 December 2007 (native forest not covered – managed through RMA and Forests Act)
- Counted as part of NZs baseline carbon stock – can't earn any units from ETS
- Can harvest, replant and change species without ETS obligations
- Must pay units to the Govt if deforested
- Participation is mandatory – only if deforested

## Post-1989

- Exotic/native forest established after 31 December 1989
- Additional carbon storage above the baseline
- Earn units for forest growth
- Obligations if harvested
- Must pay back all units if deforested
- Participation is voluntary – need to register

# Sources of carbon

**The ETS accounts for two sources of carbon stock held in forests**



**+ Above ground biomass**

Accounts for ~60% of the carbon biomass and leaves the land immediately after harvest e.g. logs

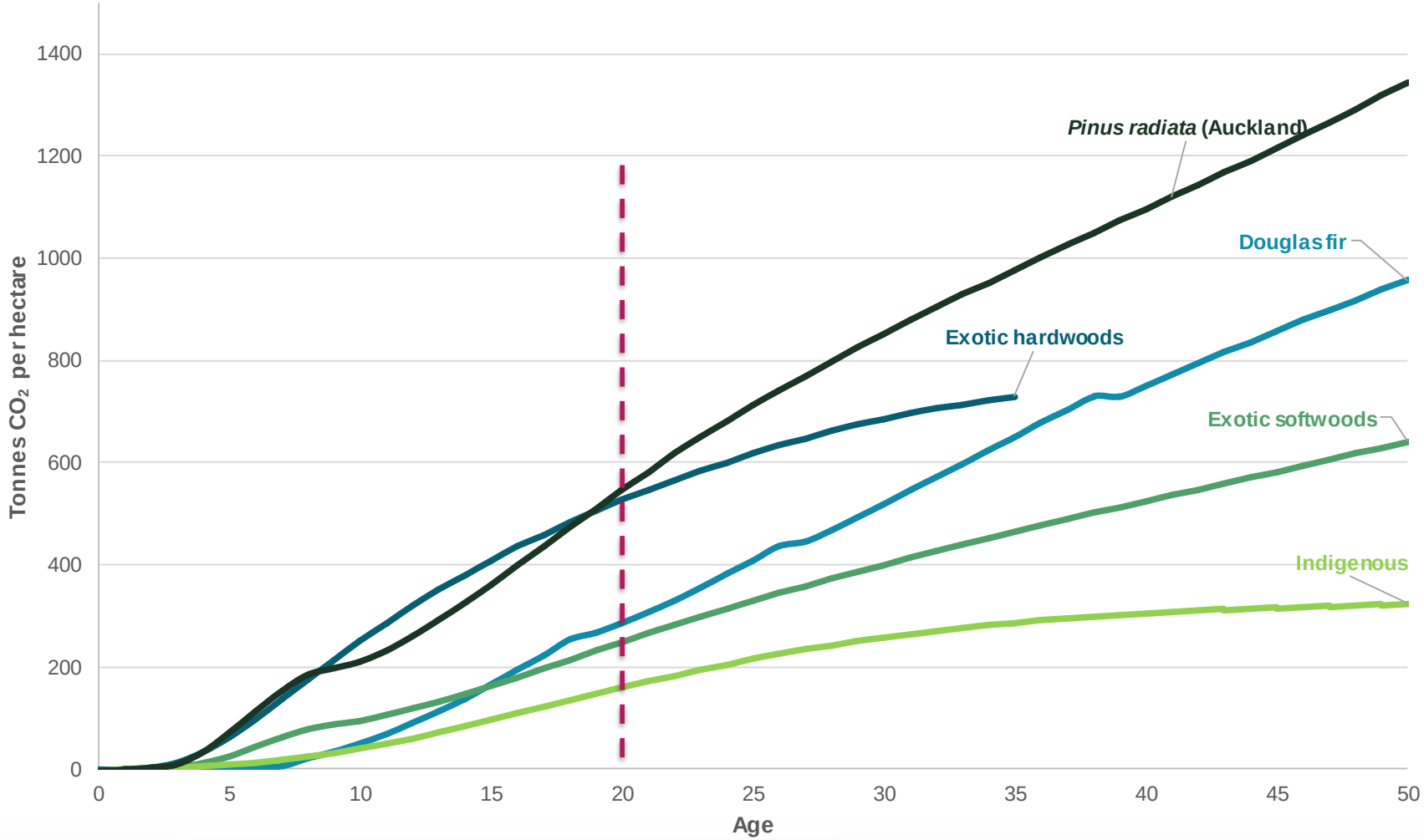
**+ Coarse woody debris**

**+ Forest Floor / Litter**

**+ Below ground biomass**

Everything left on the land post-harvest is residual carbon – assumed to decay at a constant rate over 10 years

# Carbon storage depends on species




| Forest type | Units by age 20 (@$35/unit) |
|---|---|
| Radiata pine (Akl) | 547 units (~$19,145) /ha |
| Exotic hardwoods | 526 units (~$18,410) /ha |
| Douglas fir | 286 units (~$10,010) /ha |
| Exotic hardwoods | 249 units (~$8,715) /ha |
| Indigenous | 159 units (~$5,565) /ha |

Exotic species grow quickly so accrue carbon faster (*although you also cut them down*)

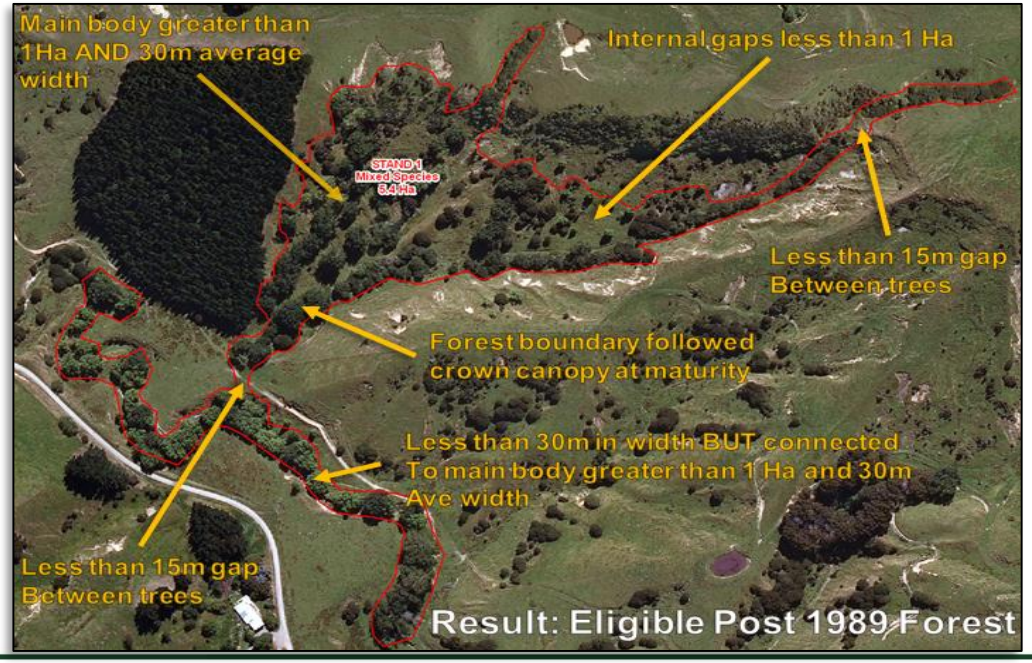
Indigenous species grow slowly so accrue carbon slowly (*but over a much longer period*)

# Planting for carbon credits

**Post 1989 forest =**

**≥1ha of forest species that can reach 5m height at maturity** + **Capable of reaching at ≥30% crown cover in each ha at maturity** + **Capable of reaching an average 30m crown cover width at maturity** + **First established or regenerating after 31 December 1989**

**There is lots of flexibility in how to meet the criteria. Strategic planting can maximise potential carbon returns.**

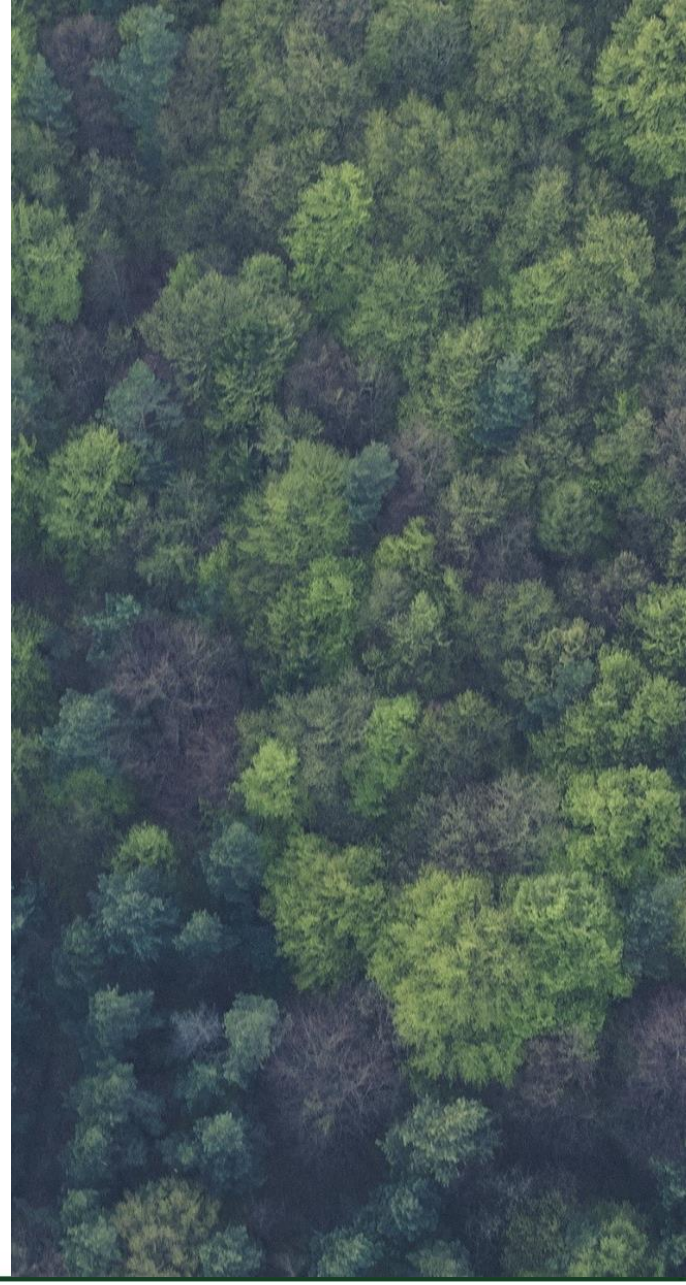



Connect narrow or small areas (riparian buffers, shelterbelts, wetlands) to bigger areas (e.g. forests, gullies) to increase overall size.

If space-planting gullies or eroding slopes, plant a few more trees and connect planting up to create a much larger overall area.

# Part 3:

# Post-1989 (voluntary) participation options 2019-2022



# Earning carbon credits

## Open a unit holding account

- This is where units will be deposited and withdrawn from

## Register eligible post-1989 forest

- Te Uru Rākau will check the land is eligible forest – law requires Te Uru Rākau to be satisfied of eligibility
- Important to provide lots of supporting info with your application and follow guidance

## Account for and report changes in carbon stock in forest

- Calculate carbon using default carbon stocks (<100 ha) or actual carbon measurements (100ha+)
- Complete an emissions return once every reporting period (or every year) to report carbon increases or decreases
- Earn units from when the forest is registered – younger forests earn the most units

## Units deposited into holding account

- Emissions return shows carbon stock ⇧= earn some units OR return shows carbon stock ⇩ (e.g. after harvest) = pay some units
- Keep units or sell on trading market

# Accounting options for post-1989 forests

## There are different options for how you account for carbon that will impact how and when you earn units

**If you register between 1 January 2019 and 31 December 2022**

**All forests use stock change accounting**

Account for short-term increases and decreases in carbon stock in the forest

**Make a choice to stay on stock change or move to averaging or permanent activity in 2023**

**If you register from 1 January 2023**

**Standard forests use averaging accounting**

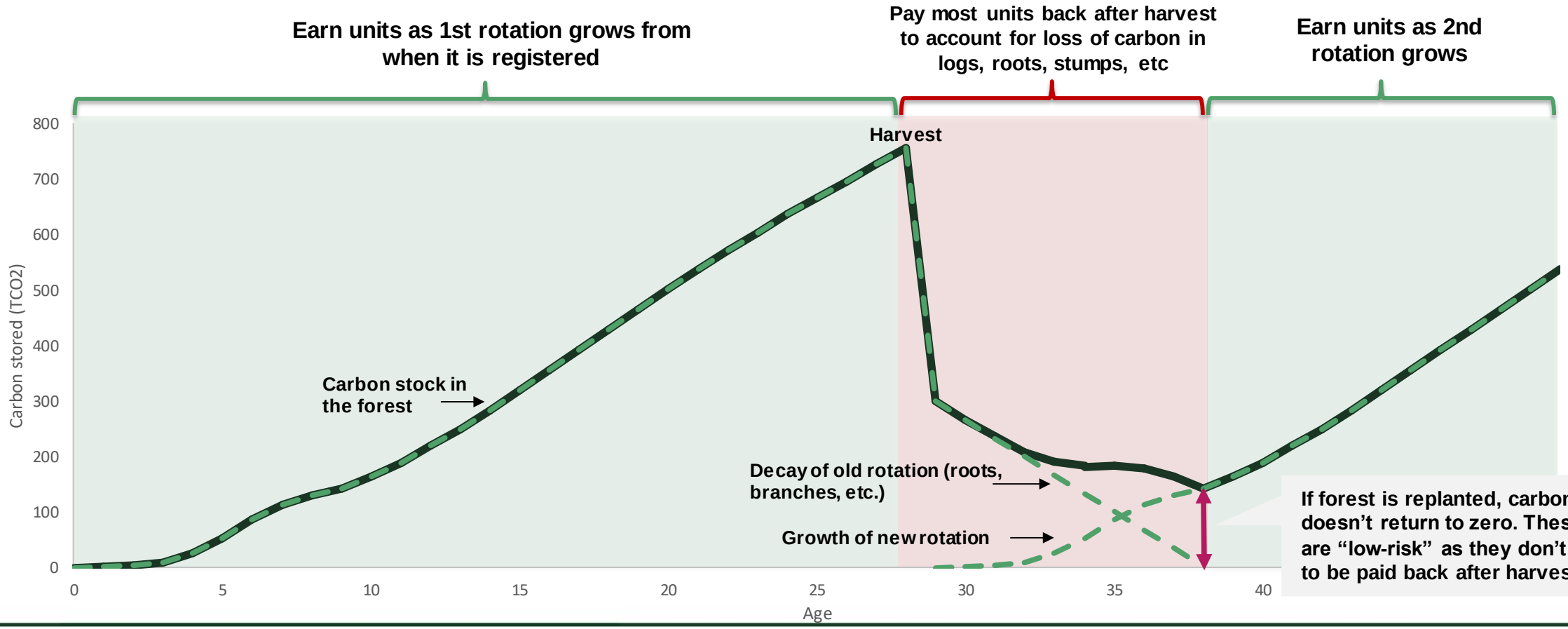
Account for long-term average carbon stock in the forest

**Permanent forests use stock change accounting**

Account for short-term increases and decreases in carbon stock in the forest

# How forests account for carbon now

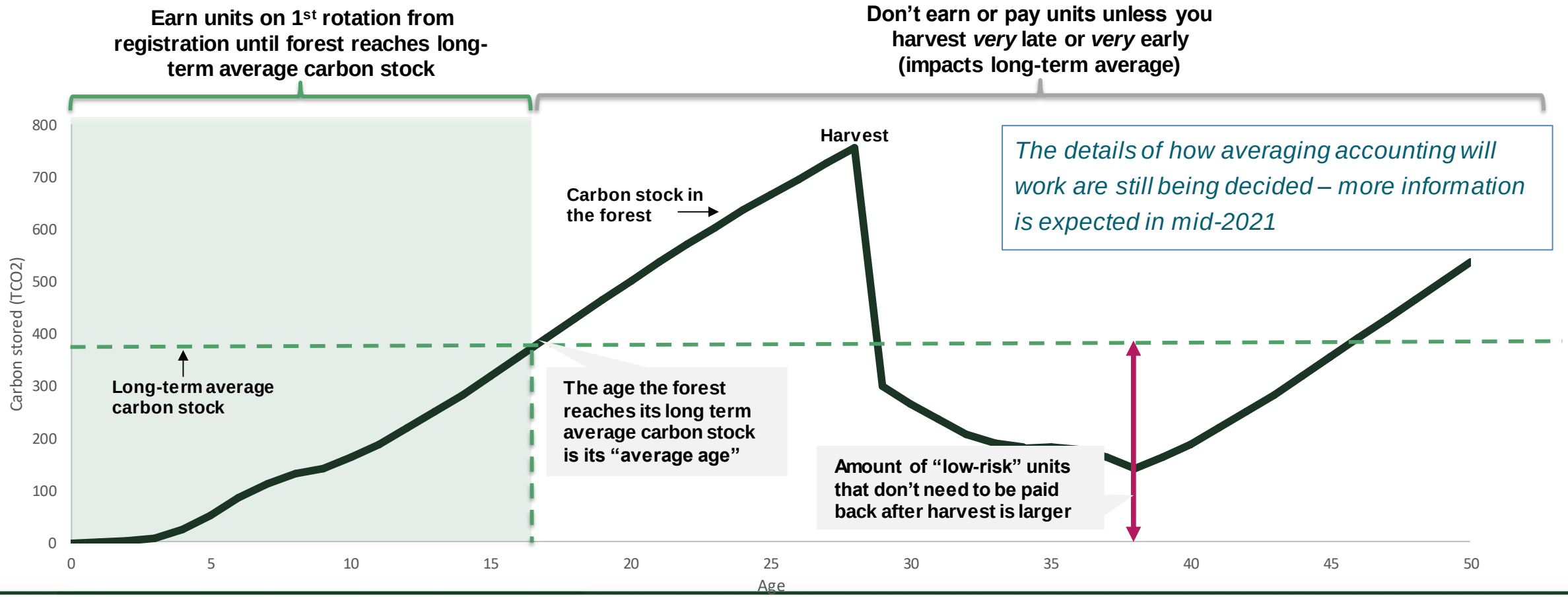
## Until 31 December 2022 all post-1989 forests in the ETS will account for carbon using the stock change approach




If forest is replanted, carbon stock doesn't return to zero. These units are "low-risk" as they don't need to be paid back after harvest.

# Accounting for standard forests from 2023

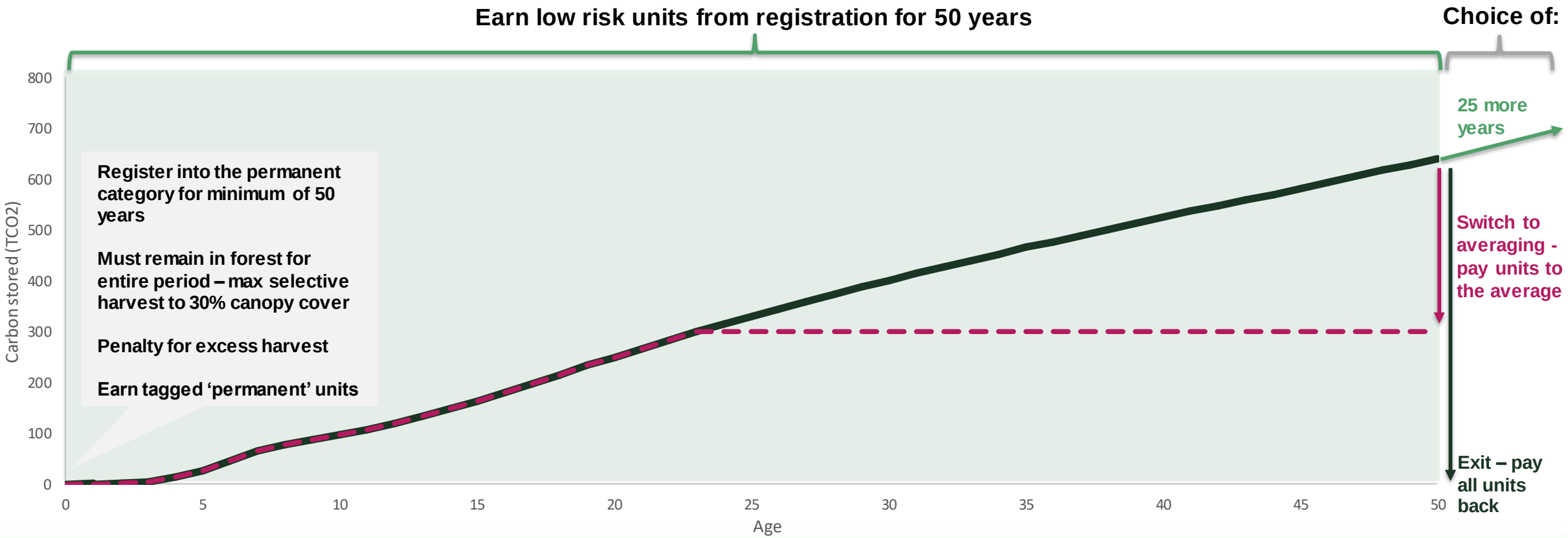
**All standard post-1989 forests registered from 1 January 2023 will use averaging accounting and forests that registered between 1 January 2019 and 31 December 2022 can opt in.**




*The details of how averaging accounting will work are still being decided – more information is expected in mid-2021*

# Accounting for permanent forests from 2023

## The Permanent Post-1989 category will be available from 1 January 2023, forests already registered in the ETS can opt-in to the permanent category at any time



# Questions?

Te Uru Rākau
Forestry New Zealand