

# Forestry & ARR Projects

Afforestation, reforestation and revegetation under Verra VM0047 v1.1

## What is an ARR project?

Afforestation, Reforestation and Revegetation (ARR) projects generate carbon credits by planting trees or restoring vegetation on land that was previously deforested or degraded. Each tonne of CO<sub>2</sub> absorbed by growing biomass generates one verified carbon credit.

The primary methodology is Verra VM0047 v1.1, released May 2025. It is ICVCM Core Carbon Principles (CCP) approved, making credits suitable for CORSIA compliance and premium buyer portfolios.

## Credit calculation

Net annual credits = Project area (ha) x Sequestration rate (tCO<sub>2</sub>e/ha/yr) x (1 - Permanence buffer) x (1 - Leakage factor)

Typical sequestration rates range from 1.5 tCO<sub>2</sub>e/ha/yr (boreal) to 8 tCO<sub>2</sub>e/ha/yr (tropical rainforest). A permanence buffer of 15-20% is standard to cover reversal risk. Leakage deductions of 10-15% account for displaced land use.

Forest type	Typical rate (tCO <sub>2</sub> e/ha/yr)
Tropical rainforest	7-10
Tropical dry forest	5-7
Subtropical forest	3-5
Temperate broadleaf	2.5-4
Temperate conifer	1.5-3
Boreal forest	1.0-2

## Project economics

ARR credits under VM0047 typically trade at £10-30/t depending on co-benefits, vintage and buyer demand. Forest projects with Climate Community and Biodiversity (CCB) standards command premiums of 20-40%.

Development costs range from £25,000-60,000 for validation, with annual verification costs of £12,000-20,000. Permanence requirements mean projects must last 30-100 years with monitoring obligations throughout.

## VM0047 v1.1 key changes

The May 2025 revision allows ARR activities on degraded forested land (previously excluded), enables remote sensing for pre-existing biomass estimation, and allows removal of invasive species during site preparation provided biomass is measured and accounted for.

New projects must request pipeline listing as Under Validation on the Verra Registry by December 2025 to use VM0047 v1.0. All new projects from January 2026 should use v1.1.

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