



The New Zealand Permanent Forest Sink Initiative (PFSI)



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Prepared by

Permanent Forests International Limited

Leaders in Carbon Forestry



The PFSI- Background

The PFSI

- is a carbon forestry mechanism designed and implemented by the New Zealand Government to solve concerns about forestry sequestration such as *additionality, permanence, measurability* and *verification*.
- is 'Kyoto compliant' conforming with the Afforestation/Reforestation rules for Annex B countries under Article 3.3 of the Kyoto Protocol
- recognises and allows private ownership of the carbon sequestered by forests in New Zealand
- requires the New Zealand Government to issue PFSI landowners with governmental AAUs (not RMUs) for each tonne of CO₂ sequestered by the PFSI forest after 01 January 2008
- became law in November 2006 and has been operational since November 2007

More information can be found at www.maf.govt.nz/forestry/pfsi/



The PFSI and the NZ Emissions Trading Scheme

Forestry under the NZ Emissions Trading Scheme (NZ ETS)

- The PFSI was developed and implemented prior to the NZ ETS
- NZ ETS became law in November 2008 and includes forestry and agriculture
- NZ ETS forests typically include business-as-usual timber forests that can be harvested at anytime
- Arguably these NZ ETS forests are not 'permanent' or 'additional' because no changes are implemented in forestry management and forests will be harvested
- NZ ETS forests are issued the domestic NZU carbon unit. Currently the NZ Government is allowing these to be converted into AAU's for international trading
- PFSI projects are issued AAUs
- Not all carbon units are created equal. *The PFSI is NZ's gold standard carbon forestry unit*



The PFSI- Summary of Rules

Kyoto definitions for land and forest eligibility

- PFSI forests must be established after 31st December 1989 on land that was not in 'forest' at that time and is directly human induced through planting, seeding, or human induced promotion of natural seed sources (Kyoto definition of reforestation).
- Under Marrakesh Accords 2001 NZ adopted the definition of 'forest' as
 - Minimum area of 1 ha
 - At least 30m in width
 - Canopy cover of >30%
 - Predominant canopy cover species have ability to reach >5m height in the location the forest is planted



The PFSI- Summary Rules cont...

Contractual relationship between the PFSI landowner and the NZ Government

- The Crown and the landowner enter into a PFSI Covenant in 'perpetuity'
- The Covenant is registered against the legal land title and binds successive landowners
- The landowner undertakes to maintain a forest sink on the land. Rigorous rules on harvesting and carbon loss are enforced
- The Crown undertakes to issue AAUs to the landowner for sequestration occurring after 01 January 2008
- The landowner is liable and has replacement obligations for decreases of the forests post 2008 carbon pool due to any reason (i.e. negligence, malfeasance or force majeure)



The PFSI- Permanence Issues

Permanence under the Covenant

- Harvesting restrictions are enforced for 99 years during which time the landowner is permitted to remove up to 20% Basal Area from any 1 hectare. Further removals are permissible only after biomass has recovered to pre-harvest levels
- Any carbon loss within the forest gives rise to liabilities and replacement obligations. Liable landowners must surrender compliant emission units to the Crown equal to decreases in carbon stocks
- A breach of harvest restrictions results in a civil penalty in addition to the replacement obligations
- Harvesting restrictions are lifted after 99 years. Replacement obligations remain
- The landowner can terminate the Covenant after 50 years but is required to 'pay back' to the Crown all the units issued under the Covenant
- AAUs earned are 'permanent' and do not expire like CDM forestry. Permanence risk lies with the NZ Government who passes liabilities through to the landowner



The PFSI- Mensuration

PFSI Methodologies

- The Ministry of Agriculture and Forestry (MAF) has developed rules for measuring forest carbon yields and carbon pools
- The rules, called the Field Measurement approach, are expected to be gazetted and published by the first quarter of 2010
- Forests greater than 50 ha will be required to use the Field Measurement approach once they have been released
- In the meantime default carbon look-up tables have been issued by MAF and provided for in the (Climate Change (Forest Sector) Regulations 2008
- These look-up tables are conservative by an estimated 10%-20%



The PFSI- Verification & Compliance

Verification

- Emission Returns form the basis for replacement obligations or AAU issuance depending on whether there is a decrease or increase in forest carbon pool
- Emission Returns must be filed with MAF at least once every 5 years and at most once per year

Compliance & Penalties

- PFSI applications and Emissions Returns are reviewed by MAF to ensure they comply with the legislation. MAF will also implement a program of random and targeted checks and detailed audits
- Landowners must maintain and keep records related to their PFSI Forest and provide them to MAF upon request
- Replacement obligations for lost carbon and civil penalties for non-compliance apply as per slide 6



The PFSI- Process

Process

- PFSI applicant must open an emissions unit account with the NZ Emission Unit Register
- Applicant must prove to MAF forest land is Kyoto eligible
- A Forest Sink Plan is submitted with a management plan and a detailed map showing forest sink areas (location, size, species, age)
- Crown and applicant sign off a Forest Sink Covenant
- Covenant is registered against the legal title of land underlying the forest
- Emission Return, initially based upon default look-up tables then actual field measurements, showing change in forest CO₂ pool filed at least once every 5 years
- Depending on Emissions Return the Crown either issues AAUs to landowner or the landowner surrenders replacement units to the Crown
- Random and targeted spot checks and auditing for duration of Covenant



The Environment- History of NZ Land Cover

Land-cover & Land-use

- New Zealand, a fragment of Gondwanaland, was world's last temperate land mass to be affected by humans
- Prior to human settlement natural forest covered the majority of the landscape from the sea level to the snow line
- Approx. one third of the natural forest cover was destroyed by fire following Polynesian (Maori) settlement 800 years ago and half of the remaining forest was cleared for farming by European settlers 150-100 years ago

Effects of forest clearance

- Massive CO₂ emissions from deforestation, loss of forest habitat and extinction of many bird species
- Conversion to farmland has generally lead to increased soil erosion and degraded river systems with sediment and nutrient pollution



The Environment- PFSI Projects

Land use History

- Registered PFSI Projects have generally reforested pastoral farmland that was being used to run sheep and beef
- Prior to human settlement the land would have been covered with indigenous forest

Environmental effects of established forest

- Increased biomass (and carbon sequestration)
- Creation of forest habitat for wildlife including indigenous birds
- Reduced soil erosion and flooding
- Reduce nutrient run off from farmlands and improved water quality



Permanent Forests International Limited (PFI)- about us

Services

- PFI specialises in the origination, development, and management of forestry investments that:
 - generate high quality carbon offsets at low cost and low risks; while
 - maximising environmental and socio-economic benefits.
- In addition to project development PFI is an aggregator and broker of permanent forestry offsets and provides consultancy services relating to forestry, policy, and markets.

Experience

- PFI has worked in North America, Australia, Brazil, Papua New Guinea and New Zealand designing, developing, and implementing forestry programs for carbon sequestration.
- Work has included evaluating large scale forestry offset programs for major emitters in the airline and coal industries
- In New Zealand experience includes:
 - establishing the first PFSI forest
 - setting up major carbon forestry joint venture between an overseas investor and Māori corporation
 - designing first carbon forest in New Zealand eligible for nitrogen reduction payments
- PFI has strong political relations with Principal Mark Belton attending the last two Kyoto Protocol COP meetings in Bali and Poznan as part of the NZ Government delegation.



Further Information

Permanent Forests International
www.permanentforests.com

NZ Ministry of Forestry (MAF)
Sustainable Forestry
www.maf.govt.nz/sustainable-forestry

NZ Emission Unit Register (NZEUR)
www.eur.govt.nz

NZ Legislation
www.legislation.govt.nz

