
Forestry carbon credit opportunities in NZ

Under the PFSI and the proposed
Climate Change (Emissions Trading & Renewable Preference) Bill

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- **Carbon allowances and offsets**
- **Introduction to GreenAir**
- **The NZ forestry opportunity**
- **Developing a project**
- **How GreenAir can help you**

Carbon allowances and offsets

Carbon allowances

- Carbon allowances called Assigned Amount Units (AAUs) are issued by the UN to Annex B (developed) countries
- Quantity issued reflects the country's Kyoto target
- AAUs are equivalent to one tonne of carbon dioxide (tCO₂e) reduced or sequestered from the atmosphere
- Allowances trade at a premium as the credits are backed by the UN (not project dependant)

Carbon offsets

- Carbon offsets are created by projects to reduce emissions or sequester carbon e.g. coal mine methane reduction, renewable energy power plants, afforestation, reforestration projects
- Under the proposed NZ ETS, carbon offsets called NZ units (NZUs) will be used, each equivalent to one tCO₂e
- Each NZU is backed by an AAU, and can be converted to an AAU

Carbon credits and the NZ schemes

AAUs

- Assigned Amount Units (AAUs)
- Issued by NZ Govt for carbon sequestered by forestry projects under the Permanent Forest Sink Initiative (PFSI)
- Can be traded domestically or internationally
- Pricing to be driven by market supply and demand, but likely to be linked with price of Kyoto units (such as European Union Allowances or EUAs currently trading at ~NZ\$50)

NZUs

- NZ Units (NZUs)
- To be issued by NZ Govt for carbon sequestered by forestry projects under the proposed NZ Emissions Trading Scheme (ETS)
- Can be traded domestically or convertible to AAUs for international trading
- Pricing to be driven by market supply and demand, but also likely to be linked with price of Kyoto units (EUAs)

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GreenAir's activities

- **GreenAir** provides funding to complete the quantification, design and certification of a potential carbon credit project;
- **GreenAir** obtains debt or equity funding to implement the project, if necessary; and
- **GreenAir** brokers the sale of carbon credits from the project.

GreenAir's expertise

Project name/ description	Benefits	Size (tCO ₂ e)	Start date
Nicaragua Forestry: reforestation of land destroyed by Hurricane Felix in 2007	<ul style="list-style-type: none"> Ongoing carbon sequestration Socio-economic and environmental benefits for the indigenous community 	1,000,000	Late 2009
Bali Forestry: reforestation with Jatropha to produce bio-diesel	<ul style="list-style-type: none"> Ongoing carbon sequestration Bio-diesel replaces fossil fuels 	600,000	Late 2009
Hebei Province China: capture of coal mine methane	<ul style="list-style-type: none"> Reduces coal mine methane emissions Reduces risk of explosions Can be utilised for electricity, heating or transport fuel replacing fossil fuel 	1,317,000	Mid 2009
Biomass Power Plants China: use of waste from landfills	<ul style="list-style-type: none"> Reduces landfill gas emissions Biomass waste from landfills replaces fossil fuels 	3,518,000	Mid 2009

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Permanent Forest Sink Initiative (PFSI)

Post-1989 Existing

- Eligible for NZUs for carbon sequestered from 01/01/08
- Sequestration rate approx 30t CO₂/ha/yr for radiata pine
- Equates to approx \$1,500 ha p.a.

New Forestry

- Eligible for NZUs for carbon sequestered from 01/01/08
- Sequestration rate approx 30t CO₂/ha/yr for radiata pine
- Equates to approx \$1,500 ha p.a.

Forestry carbon credit opportunities in NZ

Proposed Emissions Trading Scheme (ETS)

Pre-1990	Post-1989 Existing	New Forestry
<ul style="list-style-type: none">• One-off grant, based on size of forest• Approx 39 NZUs per ha of pre-1990 exotic forest• Equates to approx \$1,950 ha	<ul style="list-style-type: none">• Eligible for NZUs for carbon sequestered from 01/01/08• Sequestration rate approx 30t CO₂/ha/yr for radiata pine• Equates to approx \$1,500 ha p.a.	<ul style="list-style-type: none">• Eligible for NZUs for carbon sequestered from 01/01/08• Sequestration rate approx 30t CO₂/ha/yr for radiata pine• Equates to approx \$1,500 ha p.a.

Potential value

	Pre-1990 (ETS)	Post-1989 existing and new forestry (PFSI & ETS)
	Once-off value	Value per annum
100ha	\$195,000	\$150,000
500ha	\$975,000	\$750,000
10,000ha	\$19,500,000	\$15,000,000
50,000ha	\$97,500,000	\$75,000,000

Note: this is based on a sequestration rate of 30t/ha/yr for radiata pine forest, and references the price of international Kyoto units EUAs (~NZ\$50)

Comparison of benefits

PFSI

- Strong environmental integrity due to permanency factor of the PFSI
- AAUs likely to attract a higher premium (due to permanency factor)
- Ideal for marginal land not easily harvested
- Scheme already in operation, option of transfer to the ETS within 18 months of new legislation being enacted

ETS

- Greater flexibility than the PFSI with no harvesting restrictions
- Pre-1990 forest recognised with one-off allocation of credits

Forest owner obligations

PFSI

- Forest carbon sink must be maintained - permanent covenant applies
- Harvesting restrictions apply for 99 years
- Liable for any negative carbon stock changes from the date of joining the scheme, however this is capped at the amount of AAUs issued
- Can exit the scheme after 50 years, provided all AAUs issued are repaid, however covenant remains in place

ETS

- Forest carbon sink must be maintained
- No harvesting restrictions but subject to emission liabilities if forests is not replanted or allowed to regenerate.
- Liable for any negative carbon stock changes from the date of joining the scheme, however this is capped at the amount of NZUs issued
- Can exit the scheme at any time, provided all NZUs issued are repaid

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Proposed quantification process

Pre-1990 (ETS)

- Reference to look-up tables (due for release 2008)
 - Species
 - Age
 - Forest area
 - Region

Post-1989 existing and new forestry (PFSI and ETS)

- Initially look-up tables (due for release 2008)
- Later, ground measurement (sampling design to be stipulated) and carbon calculator for detailed site-specific carbon calculations by Registered Forestry Consultant
- Sampling design likely to include formula for number of plots/area, plot size and layout. Sampling according to forest sub-types (stratification) gives most precise carbon estimates.
- Greater accuracy = higher costs, but higher quantity of AAUs/ NZUs awarded

Registration

PFSI

- Registration with NZEUR for allocation of credits, and with private exchange (e.g. TZ1) for trading of credits
- PFSI project registration including required documentation (location maps/images, evidence of land/forest eligibility, carbon forestry plan)

ETS

- Registration with NZEUR for allocation of credits and with private exchange (e.g. TZ1) for trading of credits
- ETS project registration including required documentation

Trading NZUs and AAUs

NZUs

- Credits issued to NZEUR, then transferred to private exchange for trading (e.g. TZ1)
- Traded domestically or internationally through registered broker (converted to AAUs for international trading)
- Potential buyers include private companies and governments

AAUs

- Credits issued to NZEUR, then transferred to private exchange for trading (e.g. TZ1)
- Traded domestically or internationally through registered broker
- Potential buyers include private companies and governments

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How GreenAir can help you



- Assess eligibility of land and forest for PFSI/ ETS
 - Quantify current and potential carbon sequestration
 - Develop a carbon forestry plan to optimise AAUs/ NZUs
- Register the forestry project under the PFSI/ ETS scheme
 - Register the forest owner with the NZEUR and with a private exchange (e.g. TZ1) for allocation and trading of AAUs/ NZUs
- Develop a risk management strategy for the sale of the AAUs/ NZUs to account for any future liabilities
 - Broker resulting credits on the NZ and/ or international market to achieve the optimum price for the forest owner each year, if necessary

Advantages of working with GreenAir

1. All costs covered, low risk and no upfront cost to forest owner
2. Carbon forestry plan and full quantification ensures AAUs/ NZUs are optimised
3. Risk management strategy minimises exposure to any future liabilities
4. Brokering relationships achieves the best price for AAUs/ NZUs
5. GreenAir's expertise ensures a successful project

Next steps

To register with GreenAir Ltd, please contact one of our NZ agents to complete a registration form (details on our website):

www.greenairfund.com