

# What's happening in private forestry?

*This newsletter is to update you on recent developments relating to private forestry in our area and on the activities of the Northern Inland Forestry Investment Group (NIFIG).  
NIFIG is operated by the Regional Development Australia - Northern Inland.  
Our role is to nurture forest industry activity in the region.*

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November 2009

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A NSW Government Initiative



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NORTHERN INLAND NSW

## 1. NIFIG - we are still here!

Despite withdrawal of both Commonwealth and State Government funding, the NIFIG is still operational and providing a local source of information and advice on all matters related to private forestry.

We are actively seeking alternative sources of funding to maintain our programs which are aimed at nurturing all aspects of private forestry in the Northern Inland region - from growing trees right through to selling processed wood.

Our previous host organization – the state funded Northern Inland Regional Development Board has changed, becoming a joint Commonwealth-State funded body now known as Regional Development Australia – Northern Inland.

## 2. Engineered Woodlands Project

The tree establishment, brochures and field day components of this project are complete.

### Key achievements include:

- The establishment of 286 ha of engineered woodlands on 17 different sites across 16 farms to demonstrate the concept;

These included:

- ◇ Six sites with a total area of 134 ha in the Namoi Catchment
- ◇ Seven sites with a total area of 101 ha in the Border Rivers/Gwydir Catchment
- ◇ 4 sites on the Tablelands with a total area of 53ha

Cont.

- From each site, data was collected on tree growth and survival, paddock production and costs, soil nutrients and carbon, carbon sequestration in the trees and biodiversity of bird species;
- The four information brochures can be found here  
<http://www.nio.com.au/index.php?page=Projects&ID=1149575534> and include:
  - ◇ Tree establishment
  - ◇ Design
  - ◇ Carbon sequestration and trading
  - ◇ Economic aspects of engineered woodlands;
- We ran 3 field days at various project sites;
- We hosted and gave evidence to the Parliamentary inquiry into farmers adapting to climate change, discussing various issues on the proposed Carbon Pollution Reduction Scheme and the capacity of engineered woodlands to sequester carbon;
- We presented project findings at the State Landcare Conference;
- The project was covered in the rural press (The Land) and on ABC radio.



***This is what happens when you get it right – excellent growth and survival***

### **Key messages to be taken from the project to date include:**

1. Weed control is king! This is one of the most critical aspects controlling tree growth and survival;
2. Species selection and ground preparation are also king. There are only a handful of species which have any true commercial potential in our region. Careful ground preparation and the use of a fallow period to store soil moisture will significantly increase growth rates;
3. Frost and planting time can be critical;
4. Residual herbicide applications failed on about half of the sites, necessitating additional post-planting weed control;

**Cont.**

### ***The key species used were:***

#### ***Tablelands species -***

*Pinus radiata* (radiata pine),  
*Eucalyptus nitens* (shining gum),  
*Eucalyptus viminalis* (manna gum),  
*Eucalyptus pauciflora* (snow gum),  
*Acacia dealbata* (silver wattle).

#### ***Slopes species -***

*Eucalyptus camaldulensis* (river red gum),  
*Eucalyptus sideroxylon* (mugga ironbark),  
*Eucalyptus argophylloa* (Chinchilla white gum),  
*Acacia stenophylla* (river cooba),  
*Acacia implexa* (hickory wattle).



#### **Note – the project is not finished!**

As long as we have the funds, we intend to monitor tree growth and agricultural production on the demonstration sites to provide long-term quality information on engineered woodlands. NIFIG in conjunction with several other groups are actively applying for funds to continue and expand the project.

See the NIFIG website for further project information and outputs ([www.nio.com.au](http://www.nio.com.au) and click on the farm forestry section).

### ***3. Carbon Pollution Reduction Scheme (CPRS)***

Many who receive our newsletter are farmers, and will be anxiously awaiting to hear if the Federal government intend to include agriculture as a 'covered sector' in the CPRS.

Becoming a covered sector could mean the following for farmers:

- They would have to account for their greenhouse gas emissions (e.g. methane from livestock, nitrous oxide from fertilizer applications, carbon dioxide from soil cultivation);
- They may have to pay for permits for those emissions – prices are set to start at \$10 per tonne of carbon dioxide, and some studies predict they will reach \$200+ by 2050;
- Farmers may be given some permits free of charge, which may be gradually withdrawn over a period of time;

5. Engineered woodlands are wide-spaced belts of trees, with agriculture operating between the belts. Total canopy cover is around 20% of paddock area. The trial sites utilized an entire paddock, so expensive fencing was eliminated. As a result, average establishment costs across the 17 sites was just \$525 per hectare (range \$300-700/ha), as opposed to \$2000+ per hectare for a traditional plantation and up to \$4500 per hectare for typical environmental plantings in our region;
6. There is a long way to go with carbon trading from farm plantations. The Kyoto rules which require trees to remain in-situ for 100 years if carbon credits have been claimed are a major deterrent to farmers;
7. Most of the financial benefit (70%) is likely to come from improved livestock performance (higher lambing rates, lower death rates, improved weight gain) on exposed farms in cold winter climates. Carbon credits may account for another 28% of improved financial performance and wood sales only 2%. Wood sale income could be significantly increased if low value wood could be used for bio-energy (we are working on that opportunity).

- Farm input costs (e.g. electricity, fuel, chemicals, fertilizers) may rise as the industries which produce those products pass on the costs of their carbon permit purchases, or the costs associated with reducing their emissions;
- Farm carbon credits could be sold, or could offset the farm emissions from carbon stored in trees planted on cleared agricultural land post 1990;

- At present, farmers receive no recognition (credits) for carbon stored in soils, crops, pastures, wool or native vegetation. This may change in the next round of international negotiations in Copenhagen in December 2009.

*As part of the engineered woodlands project, in conjunction with Dr Sandra Eady of CSIRO, we conducted a carbon footprint audit for one of the farms. Box 1 outlines the essential findings of this work.*

### **Box 1. How the CPRS could impact on a grazing farm in Northern NSW**

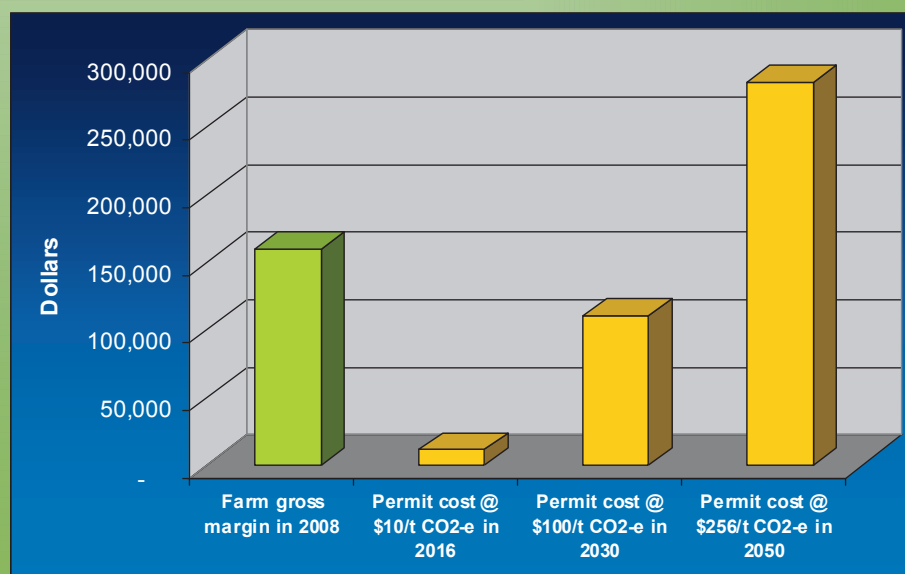
#### **Farm characteristics**

- \* Farm size: 831 ha
- \* Livestock: Sheep 5,600 head, Cattle 120 head
- \* Annual carbon emissions: 1,104 t CO<sub>2-e</sub>
- \* Whole farm gross margin: \$160,000 per annum (=gross receipts less variable costs. Does not include financing, overhead or farm family costs)

#### **CPRS impacts (Fig 1)**

- \* Cost of permits @ \$10/ CO<sub>2-e</sub> (the starting carbon price under CPRS) = \$11,040
- \* Cost of permits @ \$93-107/t CO<sub>2-e</sub> (the carbon price by 2030 as predicted by the CIE 2009 study) = \$103,000 – 118,000 per annum
- \* Cost of permits @ \$241-272/t CO<sub>2-e</sub> (the carbon price by 2050 as predicted by the CIE 2009 study) = \$266,000 - \$300,000 per annum

**Figure 1. Cost impost of emission permits, 831 ha New England grazing farm**





The following table indicates that while tree planting can offset the farm emissions, it is likely to be a costly exercise.

Also, trees only continue to remove carbon dioxide from the atmosphere while actively growing. Growth generally tapers off after 30-40 years, so the trees would have to be harvested and re-planted to continue the cycle. This is possible if access can be found to wood markets, though some landholders may want to retain many of the trees for stock shelter.

The results tend to suggest planting trees on farms for carbon storage alone is unlikely - their true financial value is realized when they are grown for multiple benefits (timber, shade and shelter, carbon and perhaps bio-energy).

One promising option for selling more wood from engineered woodlands, is using the wood as bio-energy to replace fossil fuels. This could significantly improve the returns from harvesting, providing an income stream from the lower quality wood and thinnings, while higher quality wood could be sold for sawlogs etc.

### Tree Planting Needed to Offset Emissions on 831 ha New England Grazing Farm.

Tree configuration	Av CO <sub>2</sub> -e pa sequestration over first 30 years	Area of trees (ha) to offset 1,104 tonnes of CO <sub>2</sub> -e pa	Tree planting as % of total farm area	Total establishment cost (\$)
Plantation 833 trees/ha	6.00	184	22	460,000
Engineered woodland <sup>1</sup> 333 trees/ha	2.96	373	45	372,627
Engineered woodland 200 trees/ha	1.78	620	74	372,000

<sup>1</sup>. An engineered woodland is a wide spaced agroforestry option, where belts of trees are planted across an entire paddock. This minimises/eliminates fencing costs and allows agricultural activities to operate between the tree belts, unlike with a solid plantation.

## 4. Private Native Forestry - Awareness Field Days

The Private Native Forestry Code of Practice has now been in operation for almost 2 years.

The Code is administered through the Department of Environment, Climate Change and Water (DECCW) and requires an approval to be granted (called a private native forestry property vegetation plan), if natural forest wood is to be harvested from private land and sold off-farm.

NIFIG in conjunction with Industry & Investment NSW (DPI) will be holding awareness field days on this issue in our region in the near future.

These will cover:

- Understanding how your forest grows;
- Managing your forest;
- Obtaining an approval for private native forestry;

- Measuring your forest;
- Harvesting your forest;
- Making it pay.

Anyone wishing to attend a field day can register their interest with me at the contact details overleaf.

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*Using a dendrometer to measure forest basal area*



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