



Garnaut Climate Change Review

Issues Paper 1 - Climate Change: Land Use - Agriculture and Forestry



**A response by the National Association of Forest
Industries (NAFI) and Tree Plantations Australia (TPA)
December 2007**

INTRODUCTION

The National Association of Forest Industries (NAFI) and Tree Plantations Australia (TPA) appreciate the opportunity to make a submission on this important Issues Paper, *Climate Change: Land use – Agriculture and Forestry*, which is part of the Garnaut Climate Change Review.

NAFI and TPA are Australia's peak forest industry bodies representing the interests of the industry to the public, governments and public authorities on matters relating to the national development and use of Australia's forests and wood products.

Australia's forestry sector is already making a significant contribution towards mitigating climate change. The sector can potentially increase this contribution through the benefits of carbon sequestration in managed production forests, the use of carbon storing and environmentally sustainable wood products, and the use of wood waste for renewable energy.

However, the forest industry is mindful that for these benefits to be adequately utilised, they require due recognition in the development of any policy on climate change and rules for emissions trading in Australia.

Australia's ratification of the Kyoto Protocol signals a new era in policy affecting many sectors, including forestry. The forestry sector will need to play a significant role in emissions trading if Australia is to achieve its future emissions reduction targets. For this to occur, a fresh look is required at the carbon accounting rules for production forests and wood products.

This submission highlights the contribution which Australia's forestry sector can make towards addressing climate change and the considerations required to ensure that Australia and the sector itself can maximise the use of these benefits.

In order to appropriately address the specific aspects of the Issues Paper, NAFI and TPA's submission is divided into 4 key issues facing Australian agriculture and forestry as a result of climate change (as identified in Section 1.2 of the Paper). Responses are also provided in relation to relevant the issues and questions raised throughout the Paper.

ADAPTATION IN AUSTRALIA'S FORESTRY SECTOR

Adaptation has always been an important priority for Australia's forestry sector. The impacts of climate change are still relatively uncertain and could have fairly dramatic impacts on Australia's forest ecosystems. Changes in the patterns of rainfall, temperature and frosts could lead to a range of new impacts including increased bushfires, pests and diseases.

Adaptive management has long been a valuable tool in the management of Australia's production forests, both plantations and native forests. Forest managers utilise a wide array of silvicultural management techniques and practices in order to achieve desired outcomes across a range of different forest types and stand structures. As forests are dynamic systems, it is important that forest managers have a variety of management techniques 'at their disposal' in order to adapt to changing conditions, such as climate.

These techniques may include thinning of dense stands, prescribed burning for ecological and timber protection purposes, variations in the timing and pattern of planting, application of fertilisers and pesticides, rotation lengths, harvesting and tree species selection. The wide range of management options available to Australia's forest managers provides them with significant flexibility in dealing with anticipated climatic variations and the effects this may have on forest ecosystems.

At the landscape level, forestry can provide a valuable complementary land use to other forms of agriculture, which may be at greater risk from the effects of climate change. As a long term crop, trees are generally not as susceptible to seasonal climatic variations as certain forms of agricultural production.

Recent drought conditions throughout Australia resulted in dramatic reductions in agricultural production, yet the level of impact on production forestry has been far less severe. However, increased bushfires are a major threat which the forestry sector must deal with through its adaptive management regimes.

The ongoing expansion of Australia's plantation resource in the agricultural landscape is providing a range of environmental, social and economic benefits. Plantations can be effective in addressing issues such as land degradation (i.e. salinity and erosion) and enhancing biodiversity, water quality and carbon sequestration.

Plantations are an effective means of diversifying the agricultural landscape to mitigate against the effects of climate change. Successfully integrating plantations with other forms of agricultural production provides a comprehensive land use framework which is less exposed to climatic variations. Coupled with the wide range of management options available to plantation managers to cope with these variations, plantation forestry is an extremely valuable land use for addressing climate change.

Adaptive management in commercial native forests is also a valuable means of achieving carbon positive outcomes, particularly when compared to the alternative option of 'locking up' forests in reserves.

Over 11 million hectares of Australia's public native forests previously available for timber production have been placed into conservation reserves since 1994. The

management regimes adopted within these reserves, particularly relating to fire, are very different to those previously practiced while the areas were more actively managed as production forests.

The current ‘passive’ approach to managing Australia’s conservation reserves is creating a significant risk to Australia’s carbon accounts through severe bushfires. Passive management of forests in these reserves may lead to a significant build up of fuel loads and an increase in the risk of high intensity wildfires.

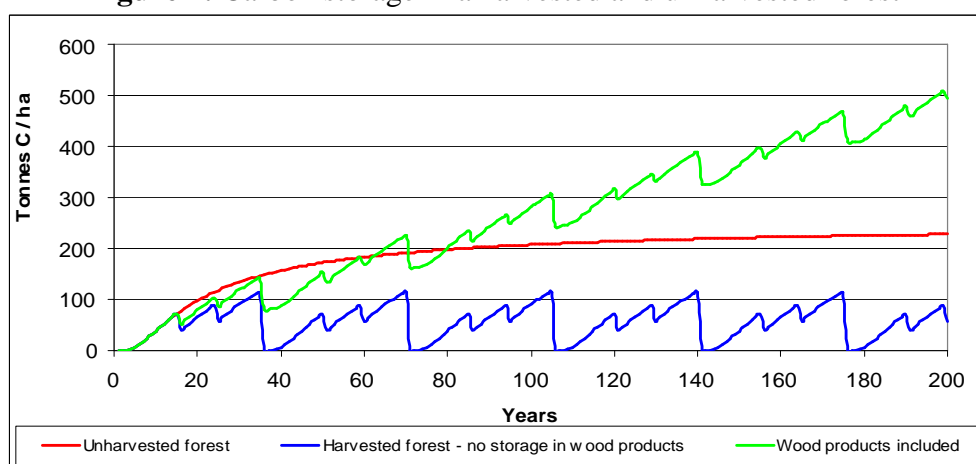
Wildfires can not only devastate the environmental values of these forests, but also increase the risk to neighbouring commercial forests, farms and townships. This is a factor often not well considered in government policy decisions to create new reserves.

Commercial native forests are actively and adaptively managed to reduce fuel loads for the protection of both ecological and commercial timber values. This is achieved through prescribed burning programs to control excessive fuel build-ups within these forests. Other management techniques including thinning of dense regrowth, sustainable harvesting, regeneration and replanting are also available to allow for adaptation in the event of climate change.

Effective management systems such as this should be recognised within a domestic emissions trading scheme as it minimises the risk of significant emissions from wildfires. For example, during Australia’s 2002/03 bushfire season, approximately 130 million tonnes of CO₂e (equal to a quarter of Australia’s total annual greenhouse emissions) was emitted as a result of the high intensity wildfires which occurred.

As shown below in Figure 1, by actively and sustainably managing and utilising forests for timber products which ‘lock-up’ carbon, the carbon benefit can be significantly increased over time, when compared to the alternative approach of not utilising the forest resource. When the storage of carbon in wood products is appropriately accounted for, the carbon benefit of a production forest is more than double that of a forest which remains unharvested.

Figure 1: Carbon storage in a harvested and unharvested forest¹



¹ Forest and Wood Products R & D Corporation (2006). Forests, Wood and Australia’s Carbon Balance.

MITIGATION OPTIONS FROM AUSTRALIA'S FORESTRY SECTOR

Australia's forestry sector is already providing a range of climate change mitigation options and has significant potential to expand these efforts. Mitigation options available to the forestry sector broadly include; forests as carbon sinks, renewable carbon storing wood products and wood waste as a source of renewable energy.

These mitigation options, and how they can be best utilised, are discussed in more detail below.

Carbon offset potential of Australia's production forests

Australia has a total forest estate of 164 million hectares – covering 21% of the continent. This is broken up into 162.7 million ha of native forests and 1.8 million ha of plantation forests. The total amount of carbon stored in Australia's forests is 10.5 billion tonnes.² This provides a carbon sink for over 70 times Australia's current annual emissions.

Nearly 22 million ha (13% of total forest estate) of Australia's native forests are in conservation reserves, while just over 11 million ha (7%) of public native forests are available for multiple-use purposes including timber production. The remaining areas of native forest (130 million ha - 80%) occur within a mixture of tenures including leasehold, crown and private land. These tenures are variably available for timber production, although a large proportion of these forests are not suitable for commercial purposes.

In 2004 Australia's production forests, comprising commercial native forests and plantations, removed a net 44 million tonnes of CO₂e from the atmosphere. This consisted of a net offset of 22.5 million tonnes of CO₂e by commercial native forests and a net offset of 21.9 million tonnes of CO₂e by plantations (see Figure 4 below).³

The ongoing expansion of Australia's commercial forest resources, particularly through the plantation estate, has resulted in a dramatic increase in the removal of CO₂e from the atmosphere over time.

Offsets from commercial native forests have and will continue to remain relatively constant, at around 23 million tonnes of CO₂e offsets per annum. Plantation expansion on the other hand has seen annual offsets nearly double from 12.7 million tonnes of CO₂e in 1990 to 23 million tonnes of CO₂e in 2005 (see Figure 2 below).³

Based on estimates developed by the AGO in 2006, Australia's Kyoto plantations could deliver around 20 million tonnes of CO₂e as offsets in 2020.³ These estimates were extremely conservative and assumed that development of Australia's Kyoto plantations would only reach around 1 million hectares by 2020 (around 800, 000 hectares are already currently established).

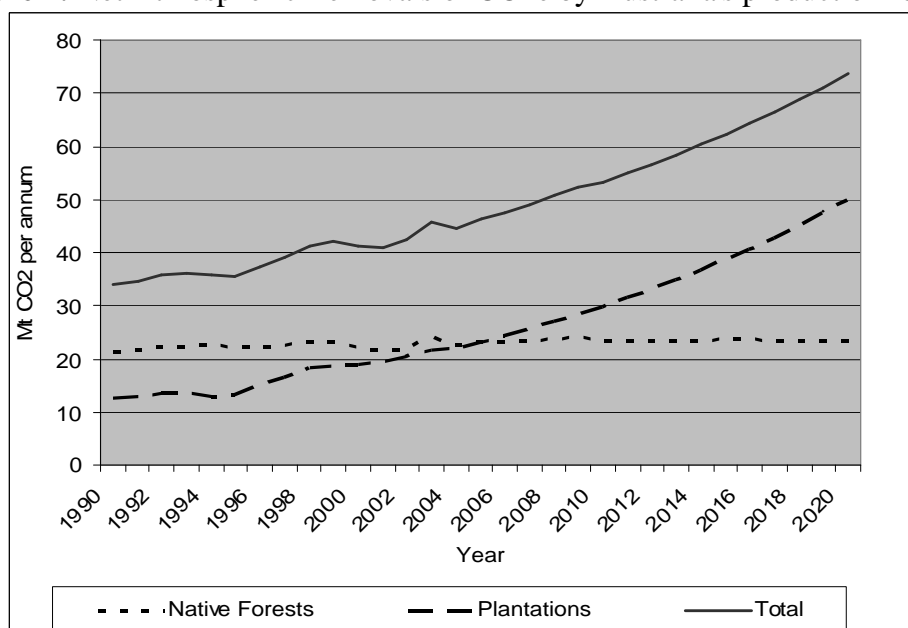
² Forest and Wood Products R & D Corporation (2006). Forests, Wood and Australia's Carbon Balance.

³ AGO (2006). Forestry Sector Greenhouse Gas Emissions Projections 2006.

Given the recent initiative by the Australian Government to provide greater certainty to taxation arrangements for plantation forestry, including the facilitation of a secondary market to encourage greater investment in long rotations, Australia’s plantation establishment rate is estimated to stabilise new establishment at around 75,000 hectares a year between now and 2020.

This will mean the industry will be ‘on track’ to meet the *Plantations for Australia: The 2020 Vision* target of having 3 million hectares of plantations by 2020. These new estimates will mean that Australia will likely have around 2 million hectares of Kyoto plantations (including wood production plantations and specific carbon plantations) by 2020 and could deliver around 50 million tonnes of CO₂e offsets per annum (see Figure 2).

Figure 2: Net Atmospheric Removals of CO₂e by Australia's production forests⁴



The ongoing expansion of Australia’s production forest resources, for the benefit of increased carbon sequestration, will require complementary policy settings which maintain the area of commercial native forests and expand the area of plantations. The importance of stable policy settings is discussed in more detail throughout this submission.

Carbon benefits of wood products

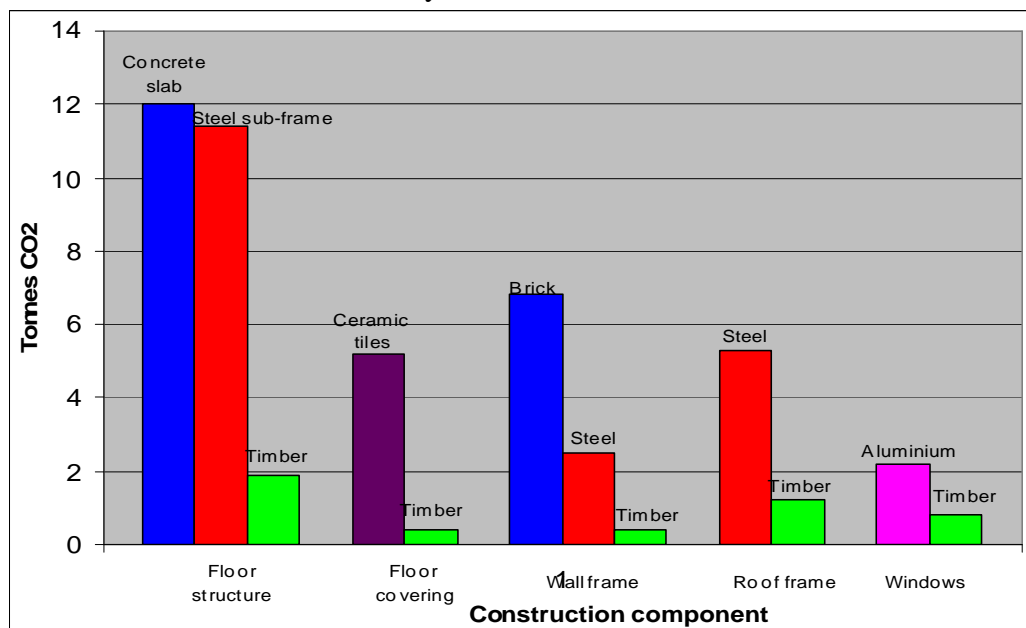
Wood products are effective in actively capturing and storing carbon from the atmosphere. The total amount of carbon stored in wood products in Australia is equivalent to nearly two times Australia’s annual emissions. This pool of carbon is recognised under the UNFCCC accounting framework and delivers around 5 million tonnes of CO₂e offsets each year.⁵ If the use of wood products is increased, the volume of carbon offsets in this pool will also increase.

⁴ Source: AGO (2006). Forestry Sector Greenhouse Gas Emissions Projections 2006, & NAFI projections for resource expansion based on current rates and 2020 Vision target.

⁵ AGO (2006). Forestry Sector Greenhouse Gas Emissions Projections 2006.

Also, timber is far less emissions intensive in its production when compared to alternative building materials such as concrete, steel and aluminium (see Figure 3). Recent research by the CRC for Greenhouse Accounting indicates that by choosing wood products wherever possible in house construction, greenhouse gas emissions, equivalent to more than 25 tonnes of CO₂, could be saved per house.⁶

Figure 3: Emissions in the manufacture of building materials used in an average family house in Australia⁴



Unfortunately, Australia’s current building codes and energy rating schemes do not fully recognise the carbon benefits of wood products as they are typically not based on full life cycle assessments. Rather, they are often based on operational energy which favours higher mass materials (i.e. concrete and steel) and do not consider the superior embodied energy credentials of timber over these materials.

Energy efficiency rating schemes should reflect the low energy emissions and subsequent carbon storing benefits of wood products in construction applications. Government policies and building codes should recognise and endorse the carbon benefits associated with using timber from Australia’s sustainably managed forests.

The IPCC, in its 4th Assessment Report, states ‘wood products can displace more fossil-fuel intensive construction materials such as concrete, steel, aluminium, and plastics, which can result in significant emission reductions.’ The IPCC report also indicates that building codes and other government policies can promote use of sustainably harvested forest products in place of energy-intensive construction materials, providing substantial potential to reduce net emissions.⁷

⁶ www.greenhouse.crc.org.au/counting_carbon/wood.cfm

⁷ IPCC (2007). IPCC Fourth Assessment Report, Working Group 3 Report, "Mitigation of Climate Change". Chapter 9 - Forestry.

Recognition of carbon storage in harvested wood products is being developed as part of the Kyoto process and will be considered in the context of post Kyoto framework negotiations. In the report of the Prime Minister's Task Group on Emissions Trading, carbon in harvested wood products has been identified for further investigation for possible inclusion as a recognised carbon storing activity under emissions trading. Recognition of carbon stored in wood products for an emissions trading scheme has long been a priority for the forest industry.

Wood Waste for Renewable Energy

The use of wood waste for renewable energy purposes in Australia has not been widely utilised to date, but has enormous potential to lower Australia's greenhouse emissions. Experience from overseas indicates that wood waste is an efficient, low emissions and sustainable feedstock which could make a valuable contribution to Australia's efforts to address climate change.

Based on present harvesting rates, there is enough wood waste available from existing forest industry activities in Australia to produce 3 million megawatt hours of electricity per annum. The net benefit of using this wood waste would be a permanent reduction in Australia's greenhouse gas emissions of 3 million tonnes of CO₂e per year. Renewable energy from wood waste reduces CO₂ emissions by 95-99% for each MWh of electricity generated when compared to coal-fired electricity generation.⁸

Several Scandinavian countries have been active in reducing their energy emissions by increasing their utilisation of wood waste as a renewable energy source. For example, in Finland wood accounts for a higher percentage of energy use than in any other industrialised country. Over 20% of Finland's total energy production is based on wood – produced by burning residues from forest thinnings, chips from logging waste, sawdust and building waste.⁹

The US has demonstrated the benefits of establishing co-fired power generation demonstrations towards facilitating more widespread uptake. Through an initiative between US Government Departments and existing US coal-fired power generation stations, a series of co-fired demonstrations have been developed throughout the country.¹⁰ These demonstrations utilise boilers within existing power stations and incorporate coal feedstock with sawdust residue from wood processors, as well as urban wood waste.

Results reveal that not only is fossil fuel use for power generation offset by the incorporation of wood, but efficiencies in power generation are maintained or

⁸ NAFI (2006). The environmental benefits of using wood waste for renewable energy, http://www.nafi.com.au/bioenergy_factsheets/WWFS03.pdf.

⁹ International Energy Agency (1998). Renewable Energy Policy in IEA Countries: Volume 2 – Country Reports, International Energy Agency.

¹⁰ Payette, K. Tillman, D. Banfield, T. & Nutter, T. (2001) *Emissions Management at Albright Generation Station through Biomass Cofiring*. USA.

Hus, P.J. & Tillman, D.A. (2000) *Cofiring multiple opportunity fuels with coal at Bailly Generation Station*. USA.

Battista Jr, J.J. Hughes, E.E. & Tillman, D.A. (1999) *Biomass cofiring at Seward Station*. USA.

improved. US research results reveal co-firing with pulverised coal and wood residues significantly reduces pollutants and overall greenhouse gas emissions.

Unfortunately, Australia is a long way behind many overseas countries in recognising this significant source of renewable energy and fostering the development of co-generation facilities and demonstration projects.

There are a number of regulatory restrictions at both the state and federal level which prevent the efficient utilisation of wood waste for bioenergy purposes from the industry's activities (i.e. harvesting, processing, and utilising waste wood from the building sector). These include the current MRET regulations which limit the use of wood waste from the sustainable harvesting of native forests.

If Australia is to achieve optimal benefit in reducing its emissions through wood waste as a valuable and legitimate source of renewable energy, these regulations must be amended prior to becoming the framework under an emissions trading scheme.

Forestry's overall carbon mitigation value

Through the national carbon accounts for the UNFCCC (UNFCCC carbon accounting framework) and the national carbon accounts for the Kyoto Protocol (Kyoto accounting framework) the Australian Government already acknowledges the contribution forestry makes to reducing emissions across the economy.

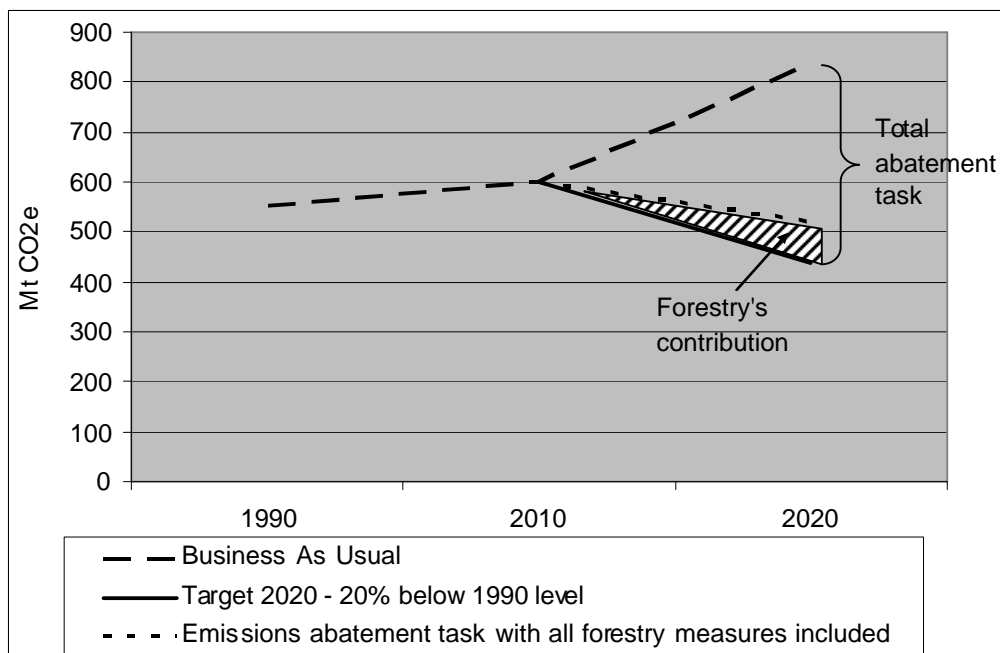
In total, the forest and wood products industry in Australia could deliver an estimated 81 million tonnes of CO₂e offsets annually by 2020 (see Table 1 below).

Table 1: Potential contribution of Australia's forestry sector to CO₂e abatement by 2020

Activity	Estimated carbon offset per year (million tonnes CO₂e)
Plantations	50
Native forests	23
Carbon in harvested wood products	5
Wood waste	3
Total	81

This would significantly reduce the emissions reduction burden faced by the covered sectors in the economy and allow them to reach a low emissions path in a low cost way. This is illustrated in Figure 4 below which shows the forestry sector's significant contribution potential towards future CO₂e abatement efforts.

Figure 4: Emissions reduction targets and the contribution of forestry



However, this will only be realised if the Government establishes a set of practical rules and regulations that:

- recognise the positive carbon benefits of forests and wood products;
- provide incentives to maintain the existing commercial native forest estate;
- allow the plantation component of the estate to grow sustainably; and
- adequately recognise and utilise wood waste resources for renewable energy production.

These are not easy issues for governments to deal with, which is why NAFI and TPA are calling for a ‘Government – Forest Industry Task Group’ that would be responsible for developing an abatement and transitional strategy that is practical and recognises the unique characteristics of forestry. This would help to eliminate the sovereign risk associated with investing in forestry abatement projects and cogeneration facilities.

PRACTICAL CONSIDERATIONS FOR COVERAGE AND INCLUSION OF FORESTRY AND AGRICULTURE IN EMISSIONS TRADING

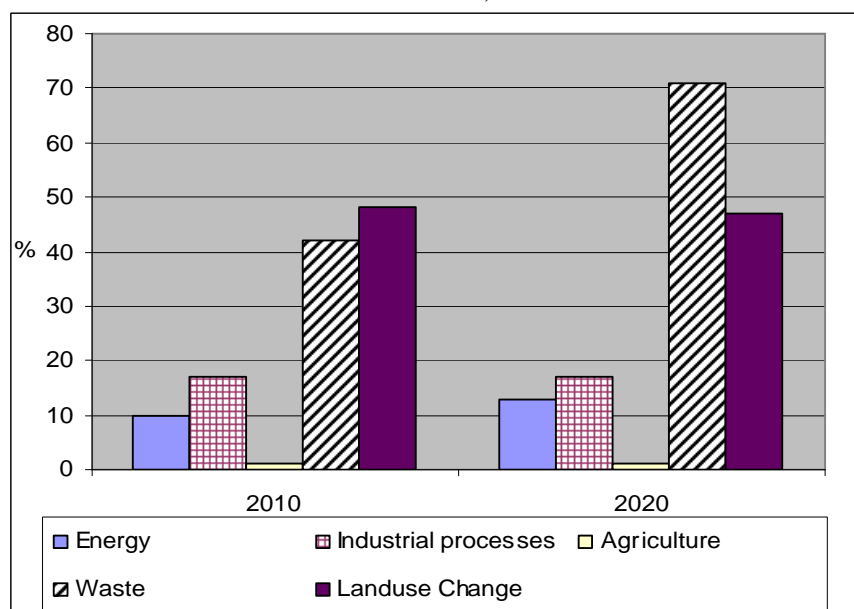
Following the election of a new Federal Government, Australia is now committed to meeting the emissions target of the Kyoto Protocol (108 percent of 1990 emissions levels by 2010) and achieving a longer term emissions reduction target of 60% below 1990 levels by 2050.

Australia is likely to meet its Kyoto commitments in 2010 through a combination of Government facilitated abatement measures (delivering around 85 million tonnes CO₂e), a reduction in land clearing activities (18 million tonnes CO₂e) and carbon sequestered by Australia’s plantation forests (21 million tonnes CO₂e).

The main focus of the Government’s abatement measures are within the Stationary Energy Sector where around 35 million tonnes of CO₂e abatement is expected. The Land Use and Land Use Change (LULUC) sector is also expected to lower emissions by 18 million tonnes of CO₂e, mainly through a reduction in land clearing activities for agricultural purposes.¹¹

There is a significant imbalance in emission abatement measures across Australia’s economy. For example, agriculture is the second largest emitting sector but its abatement achievement is only around 1 percent for the sector (under 1 million tonnes CO₂e). Figure 5 below provides a comparison between sectors of their contribution towards emissions abatement against ‘business as usual’ emissions.

Figure 5: Forecast emissions reductions by Sector (% of ‘business as usual’ emissions)¹¹



¹¹ AGO (2006). 2006 Tracking to the Kyoto Target: Australia’s Greenhouse Emissions Trends 1990 to 2008-2012 and 2020.

The Australian Greenhouse Office estimates that Australia's underlying 'business as usual' emissions will significantly increase to 151 percent above 1990 levels (837 million tonnes CO₂e) by 2020.

To achieve the new Government's target of reducing emissions to 60 percent below 1990 levels by 2050, Australia's economy will need to be well advanced towards its emission reductions by 2020. Assuming that if a 'straight line' reduction is adopted between current emission levels and the 2050 target, emission levels would need to be 20 percent below 1990 levels by 2020, however the new Government is targeting a reduction of at least 25 percent.

Ideally all sectors should endeavour to devote equal effort toward Australia's carbon emissions abatement target. While, the opportunities and costs for abatement may not be spread evenly across all sectors, this should not excuse certain sectors from exploring opportunities to deliver on their responsibilities in relation to carbon abatement. If a sector does not 'pull its weight', the emissions burden is 'picked up' by other sectors in the economy.

Given the significance of the abatement task, all efforts should be taken to provide appropriate signals to allow full abatement opportunities in all sectors to be realised. NAFI and TPA recognise that other sectors, particularly agriculture, may have additional abatement to contribute if an appropriate incentives framework was in place.

The Government is still considering which sectors will be covered under a future emissions trading scheme and it has been suggested that agriculture, forestry and possibly the waste sector may initially be excluded from the scheme.

Though the exact target is not yet known, if it was set to reach a 2020 emissions target of 20% below 1990 levels, annual emissions would need to decrease to 440 million tonnes CO₂e. If, as suggested by the previous Government, that agriculture, forestry, land use change and waste were 'not covered' under the emissions trading scheme, the emissions reduction burden for other sectors would increase significantly.

The third column of Table 2 below demonstrates the emissions reduction burden placed on covered sectors should agriculture, forestry, land use change and waste not be covered. The fourth column shows the abatement task if forestry is included but not agriculture, land use change or waste.

The table demonstrates that stationary energy, transport, fugitive emissions and industrial processes will have to find significant additional abatement, which will need to come from higher cost abatement solutions.

Table 2: Emissions abatement task to meet target of 20% below 1990 levels by 2020

Sector	Business as Usual emissions in 2020 (Mt CO₂e)	Abatement task - all sectors covered (Mt CO₂e)	Abatement task - Agriculture, Waste, Land use change and Forestry not covered (Mt CO₂e)	Abatement task - Agriculture, Waste, Land use change not covered - Forestry covered with full carbon opportunity (Mt CO₂e)
Stationary energy	423	-187	-258	-206
Transport	105	-46	-64	-51
Fugitive emissions	65	-29	-40	-32
Industrial processes	59	-26	-37	-29
Agriculture	102	-45	0	0
Waste	38	-17	0	0
Land use change	65	-29	0	0
Total emissions	857	-379	-399	-318
Forestry	-20	-20	0	-81
Net emissions	837	-399	-399	-399

If forestry were included, the sector would provide significant low cost abatement, in the order of 81 million tonnes of CO₂e per annum, relaxing the burden on other sectors and allowing the Australian economy greater flexibility in achieving deeper emissions reductions in the future.

Given the significant benefit Australia's forestry sector can make in lowering Australia's emissions, NAFI advocates initial inclusion of the sector providing it (i.e. forest owners, managers, processors etc) receive adequate recognition for their contribution towards carbon abatement as reported under the UNFCCC carbon accounting framework.

Coverage of the agriculture and land use change sectors should also be reconsidered, particularly given the potential benefits of carbon sink options.

Importance of stable policy settings

For Australia to achieve its potential delivery of 81 million tonnes of CO₂e offsets per annum from the forestry sector by the year 2020, a complementary policy environment will be a critical requirement. The expansion and sustainable utilisation of Australia's forest resources will require stable policy settings for both commercial native forests and plantations.

For plantations, it is important to ensure the development of government policy in areas of climate change and other areas (such as taxation policy, water entitlements and land use regulations) reflects the true benefits (including carbon benefits) of plantations and wood products.

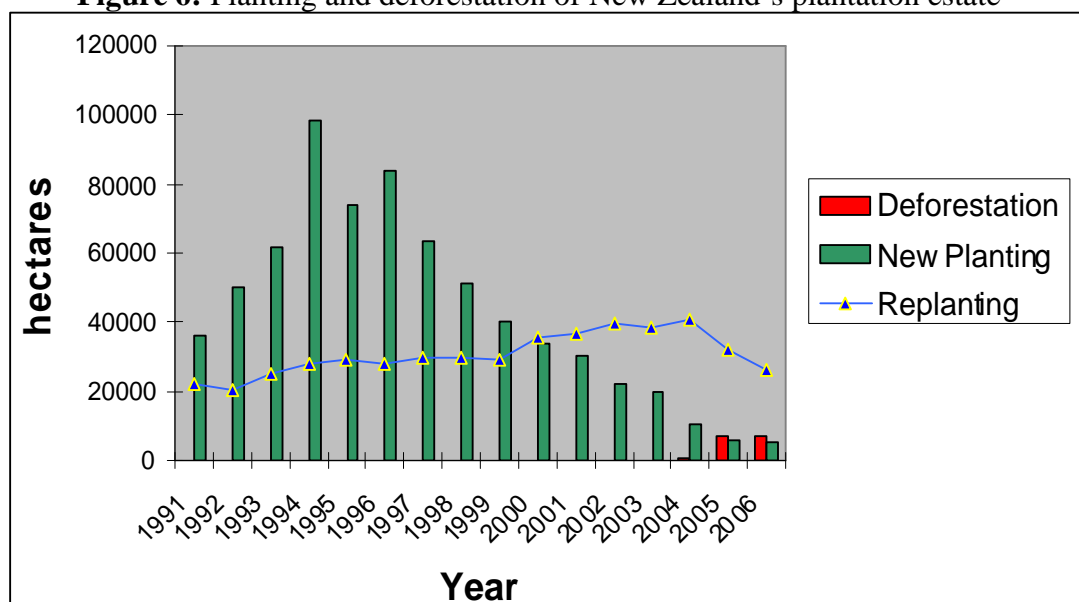
There is currently a concern held by Australia’s forest industry that water policy development in response to the National Water Initiative may unfairly restrict plantation establishment and development while failing to recognise other benefits such as the significant role of plantations as carbon sinks.

New Zealand’s forest industry serves as a pertinent example of the significant impact potential of shifting policy on the development and viability of plantation forestry. A number of recent policy decisions by the New Zealand Government in areas of climate change and land use regulations have led to considerable uncertainty for future investment in the country’s plantation sector.

The implications have been a significant reduction in the level of investment in plantation forestry in New Zealand. As such, large scale land use change has occurred whereby harvested plantations have not been replanted and have been replaced by other forms of agricultural production such as dairy farming.

This has resulted in the highly undesirable occurrence of overall net deforestation of New Zealand’s plantation estate, which has greatly impacted on the country’s current and future carbon offsetting capacity. Figure 6 below shows a clear trend in declining investment in New Zealand’s plantation forestry sector resulting in reduced new plantings and replantings and an increase in net deforestation.

Figure 6: Planting and deforestation of New Zealand’s plantation estate¹²



Given the strong land use link between the tree plantation sector and the agriculture sector, it seems logical for plantations to play a major role in offsetting emissions from agriculture. New Zealand’s policy settings have failed somewhat in allowing for this to occur, and Australia should take caution in not compromising the carbon offsetting potential of its existing and future plantation resource.

Given that the majority of Australia’s Kyoto plantations are owned by over 40,000 individual investors in Managed Investment Schemes (MIS), a secure investment

¹² Source: Presentation by NZ Forest Owners Association to NAFI and TPA (September, 2007).

environment is critical. Unless stable policy settings are maintained, certainty in investment is not assured, and as occurred in New Zealand, Australia could experience a decline in its plantation resource.

Clearly, Australia should avoid any policy decisions which are likely to impact on its significant capacity to deliver carbon offsets through its production forests. Equally, policy settings for native forests should provide recognition of the increased carbon offsetting capacity of production forests (and the carbon storing wood products which are produced from these forests) compared to conservation reserves.

Coverage - Permanence and Additionality

If forestry and LULUC remain uncovered in an emissions trading scheme, permanence and additionality will continue to be an issue for the forest industry as companies wishing to participate in abatement projects will be limited by compliance burdens.

Permanence

Permanence is a key requirement for Greenhouse Friendly accreditation, yet permanence is only required under the Kyoto Protocol where afforestation projects are recognised under the Clean Development Mechanism (CDM).

Instead Annex 1 countries are required to produce annual inventories under the Protocol, much like companies will be required to report annual emissions and abatement under the National Greenhouse and Energy Reporting (NGER) regulations.

Any increase or decrease in carbon stocks are captured by this process as a requirement to meet the country's or company's emission reduction targets.

The project based approach of Greenhouse Friendly, modelled on the CDM of the Kyoto Protocol requires a guarantee that the carbon credits generated by the project are 'permanent' by nature. That is the credit has to be permanently and physically linked to the trees planted for the project.

Under Greenhouse Friendly, there will be a permanence requirement of 70 years. For the forest industry the potential liability that arises by demonstrating a carbon credit is 'permanent' will be seen as too restrictive and onerous to warrant focusing on carbon credits.

This administrative burden could effectively limit the recognition of over 50 million tonnes of CO₂e abatement that is potentially available from Australia's plantations by 2020. These rules, though aimed at minimising risk for carbon credits are out of place in Australia where other approaches to guaranteeing the life of a carbon credit can be developed that do not limit investment and do provide the same level of fungibility and equity as is provided to a manufacturing company that creates an emissions reduction unit (ERU).

It should be remembered that forest industry companies are often vertically integrated and will be running a single carbon accounting schedule for their growing and wood

processing activities. Accounting for emissions and sequestration in this way provides equity between the treatment of fluctuations in emission levels and in sequestration levels.

The need to provide greater flexibility in dealing with permanence has been recognised even in the project based CDM model from developing countries. Just as emissions can fluctuate and hence the life of ERUs can vary, so should any emissions reduction credit associated with sequestration activities. The modalities and procedures for afforestation and reforestation projects under the CDM recognise two types of credit.

These are, a short term credit called a Temporary Certified Emissions Reduction (TCER - valid for 5 years) and a long term credit for 20 years (Long Term Certified Emissions Reduction - LCER). Upon expiry these credits can be renewed if sequestration activities are still active, replaced by another TCER or LCER, or another form of certified emissions reduction. It is disappointing that this approach has not been explored by the Australian Government.

A flexible land use framework is an essential means for achieving adaptation and accounting for the sovereign risk associated with plantation forestry and other land uses. The effects of climate change may lead to changes in land suitability and productivity, meaning land use adaptation will be critical in mitigating these impacts. An essential characteristic of a comprehensive land use framework is the allowance of flexibility for investment in, and adaptation of, the various land uses.

Flexibility is needed in the treatment of carbon credits, to maintain integrity but also to allow adaptive land use changes across the landscape. To facilitate flexible and adaptive land use, property rights for plantation offset arrangements under existing laws should allow the original liability to be temporarily or permanently covered by a credit from elsewhere in the landscape (i.e. plantations in a different location or by a periodic purchase of permits under emissions trading).

Additionality

The rules relating to the additionality concept were originally developed to ensure carbon associated with an activity outside an emissions accounting or reduction framework was related to a true reduction in emissions. Its application is important when dealing with emission reduction activities such as changing manufacturing technologies or processes where measuring variations in emissions subject to a base line (typically called a ‘business as usual’ baseline) is required.

However, it is a concept that is not suitable when dealing with sequestration activities associated with a land use change and can lead to a significant constraint on investment in these activities. The rules are also inconsistent with the ‘land use change’ concept that forms the basis of the Kyoto framework.

Rules based on the Greenhouse Friendly accreditation approach would result in only the carbon from plantations established in addition to a ‘business as usual’ baseline being acknowledged, and only if the project was not commercially viable without the

inclusion of financial returns from the reduction of emissions (sequestration activities).

Forestry is a ‘multi-product’ activity. Attempting to differentiate the activities of growing trees, be it for carbon, wood products or other benefits is an impractical concept, particularly where the production activity and the products are sequestration activities.

In reality, most plantations established over the last 20 years have been established with the expectation that the carbon they contain may at some stage be valued and saleable in a voluntary or formal market. This fact has been reflected in many of the prospectuses for forest prospectus companies and has formed a potential product return in addition to wood products.

The additionality requirement in relation to baseline activities is far more practically covered by a land use change concept. Afforestation and reforestation activities are only recognised by Kyoto rules where the activities take place on land that has been previously cleared prior to 1990.

In Australia, plantation establishment that meets these criteria usually involves a land use change from an agricultural activity such as cropping, grazing or dairying to forestry. This land use change involves two distinct stages relating to carbon emissions accounting:

- 1) The cessation of emissions from the previous agricultural land use. This cessation can in some cases result in a significant reduction in emissions, particularly if the previous activity was a high emissions activity such as dairy farming.
- 2) The creation of an increasing carbon positive store. Depending on the quality of the land, forestry activities can store significant volumes of carbon per hectare.

In reality, afforestation results in the carbon footprint for a hectare of land being changed, from an emitting footprint under most agricultural activities to a negative emissions footprint. In this way, all afforestation activities occurring on cleared agricultural land should be considered as an additional emission reduction activity as it results in a cessation of emissions from the previous ‘business as usual’ activity and an additional reduction in CO₂e from the atmosphere – potentially from other emitting activities.

In terms of the practicalities of accounting for emissions and sequestration, the AGO’s National Carbon Accounting Toolbox (NCAT) provides an excellent tool for forest owners and managers to monitor and report on their emissions and offsets. Many large commercial forest growers are already utilising NCAT and are likely to have greater capacity in carbon accounting and reporting.

RECOGNITION OF CARBON SINKS AND OFFSETS

From the forest industry's perspective, for an emissions trading system to be fully effective there must be adequate recognition of the full net carbon benefits of forests and wood products. The Kyoto Protocol does not account for the long-term storage of carbon in harvested wood products. Recognising this reality in any emissions trading system has the potential to:

- Take advantage of the significant role forests and wood products can play in offsetting emissions from other sectors.
- Making carbon trading a more attractive proposition for the forest and wood products industries.
- Provide great certainty for investors in plantation forestry in order to increase the plantation estate and its contribution towards carbon abatement.
- Increase the use of carbon storing wood products, as a substitute for more 'emissions intensive' materials.
- Encourage the utilisation of wood waste residues for renewable energy generation.

Clearly, there are significant opportunities for Australia's forest industry in the development of a domestic emissions trading scheme, providing the scheme gives due recognition to the realities of carbon sequestration and storage in forests and wood products.

Current international rules on carbon trading from the Kyoto Protocol are potentially restrictive on opportunities for carbon abatement by the forestry sector and do not reflect the true nature of the carbon benefits offered by the sector. This should not be used as a reason to also not fully consider these benefits in the development of an emissions trading scheme in Australia, particularly given the significant abatement task the Australian economy is likely to face in order to meet future emissions reduction targets.

Australia's forest industry would like to see the development of an emissions trading system that suits the characteristics of Australia's economy and emissions objectives. This should support the necessary international reporting frameworks, and allow credit trading internationally if required.

Emissions trading consistent with certain aspects of the Kyoto Protocol may fail to reflect the true nature of carbon benefits from the forestry sector. For example, the failure to recognise carbon storage in harvested wood products and the issues of permanence and additionality will limit the forest industry's ability to fully utilise the benefits it can provide in emissions trading.

There is a real opportunity for Australia to 'set the standard' for carbon accounting rules for forestry and wood products. This would be a critical step towards realising

the full carbon benefits of forestry, which may then be more widely adopted in the development of other similar systems throughout the world.

With the new Government's aim of introducing an emission trading scheme as early as 2010, there is a need to direct the resources of Government and industry to the establishment of appropriate rules for that scheme.

The Government should avoid prejudicing the design of a workable emissions trading scheme through 'sticking to' the current framework of the Greenhouse Friendly programme (as outlined in its Early Abatement Incentives Paper) as the only option for abatement in the future.

There is a lot of work that needs to be undertaken by the Government to recognise legitimate abatement from sustainable forestry. This recognition is needed if the national carbon accounts are to remain secure into the future.

As representatives of an industry with long term investment horizons, NAFI and TPA believe that creating certainty and addressing uncertainty should be the focus of designing an abatement incentives framework for an emissions trading scheme.

A carbon price signal or short and medium term emissions reduction targets are needed to enable potential offset providers to properly assess their capacity to develop and promote carbon offset products. These signals would also provide consumers of those products with the confidence to invest with minimal financial risk.

More detail on how the Government would intend converting abatement credits to emission permits is also needed to reduce the uncertainty that will likely limit participation in early abatement activities.

Like the CDM, while the Greenhouse Friendly programme does not preclude production forests from participating in offset projects, this participation is however unlikely, due to the high ongoing administrative costs of a pooled carbon model as well as additionality and permanence requirements, as previously discussed.

The Greenhouse Friendly model is similar to the CDM of the Kyoto Protocol, and it is worth noting that despite the longevity of the CDM, there is a lack of sustainable forestry credits created under that framework.

There is only one registered large scale forestry project under the CDM. This is the 'Facilitating Reforestation for Guangxi Watershed Management in Pearl River Basin' in China which was developed under the World Bank's BioCarbon Fund. The total project emission reductions generation is 462,014 tonnes CO₂e.

Combined with the policy uncertainty of the rules relating to forestry in an emissions trading scheme, the agricultural risk of undertaking a forest sink project and a recognition that most abatement counted for in the national accounts will not fit within the Greenhouse Friendly framework, NAFI and TPA are disappointed that some of the larger issues such as coverage, additionality and permanence have not been discussed further.

As such we believe that a relatively small number of offsets will be generated through Greenhouse Friendly until the introduction of an emissions trading scheme where forestry is covered. NAFI and TPA are concerned that the Government may be tempted to relax the eligibility criteria for the Greenhouse Friendly programme to include other models of carbon forest sink abatement.

Inappropriate relaxation of these rules would risk the reputation of trees as carbon sinks if accredited Greenhouse Friendly abatement projects were later found to be lacking in substance (i.e. they did not deliver on the promised abatement).

CONCLUSION AND RECOMMENDATIONS

While there are significant opportunities for Australia's forestry sector to provide a range of carbon abatement solutions in Australia's efforts to address climate change, the full realisation of these opportunities will ultimately depend on their recognition within the design of a domestic emissions trading scheme.

NAFI and TPA advocate for early coverage and inclusion of Australia's forestry sector in an emissions trading scheme as a means of achieving optimal utilisation of the abatement potential on offer from the sector. However, this should only occur on the basis that the following issues are addressed to allow for adequate recognition of the sector's abatement potential;

- Address the forestry sectors issues with additionality and permanence in the design of an emissions trading scheme in order to appropriately recognise the carbon abatement benefit of afforestation activities on cleared agricultural land.
- Ensure adequate recognition of long term storage of carbon in harvested wood products in the design of an emissions trading scheme.
- Ensure stable policy settings which encourage optimal carbon abatement from the forestry sector through; increased plantation development, maintenance of the commercial native forest estate, greater use of wood products over more 'energy intensive' materials, increased utilisation of wood waste for renewable energy purposes, and active and adaptive management of native forests and plantations.

To resolve these issues NAFI and TPA call for a 'Government – Forest Industry Task Group' that would be responsible for developing an abatement and transitional strategy that is practical and recognises the unique characteristics of the forestry sector.

NAFI is willing to answer any queries from the Garnaut Review in relation to this submission and we look forward to further consultation during this important review. This is a critical step towards achieving carbon abatement outcomes for Australia through Australia's forestry sector thus mitigating our impacts on climate change.