



SUBMISSION TO THE CARBON POLLUTION REDUCTION SCHEME GREEN PAPER

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The Wilderness Society is a not for profit environmental organisation whose purpose is to protect, promote and restore wilderness and natural processes across Australia for the survival and ongoing evolution of life on Earth.

PREAMBLE

Rhetoric from the Australian government appears to accept that the global climate crisis demands early and urgent action. When Australia took the welcome action of ratifying the Kyoto Protocol, expectations of real change were created both at home and abroad. We hoped, along with thousands of Australians that our country would join the most forward thinking leaders in fighting global warming.

European governments have taken early action and are already on a trajectory of emissions reduction. At the United Nations Framework Convention Conference on Climate Change (UNFCCC) last year in Bali, all governments recognised that Greenhouse Gas (GHG) emissions would need to be reduced by at least 25-40% by 2020 to have any chance of keeping concentrations of carbon dioxide at or below 450ppmv.

Even this level is higher than at any time during the last 2 million years¹. As Professor Garnaut notes, it would be far safer to develop an emissions trajectory which returned carbon dioxide levels to 300-400ppmv or less.

Yet there appears to be growing disparity between rhetoric and action in Australia. We were alarmed by Professor Garnaut's decision to effectively give up on achieving 400ppmv and by the consequent embarrassingly small targets for GHG reductions by 2020 outlined in his presentation on the 6th September².

All Australians need to know what would be required to achieve environmentally acceptable concentrations of GHG in the atmosphere. We urge the Government to not give up on Australia and the places we hold dear!

Our unique natural heritage helps define Australia and Australians. We must act to save our reefs, wetlands and river systems. The decisions this Government makes will leave a legacy of hope or despair for future generations.

If the proposed Emissions Trading Scheme (ETS) is unable on its own to facilitate the deep, early cuts to GHG emissions needed to help Australia

¹ Garnaut Climate Change Review, June 2008, draft report, Commonwealth Government, p51

² Garnaut Climate Change Review, Sept 2008, Supplementary draft report, targets and trajectories, Commonwealth Government.

make a strong contribution to global reductions in emissions, then the case for greatly strengthening ‘complementary measures’ is increased.

The government has received numerous submissions outlining the contribution that energy efficiency and renewable energy programmes can make to GHG reductions. Providing taxation and other incentives to expand these programmes is an immediate option available to the government.

There is another powerful and quick emissions reduction path which we outline in this submission that must be explored by the government. Namely through the protection of native vegetation carbon stocks – whether by ending broadscale clearing, minimising native forest logging or appropriate fire management. It is this path that offers the best prospect of making early and deep cuts to GHG emissions. And it is this path that will also strengthen Australia’s ecological resilience – never more critical than in the face of certain climate change.

SYNOPSIS

There are substantial and as yet not fully quantified opportunities to reduce GHG emissions from broad scale clearing of native vegetation, native forest degradation (logging) and degradation of native vegetation from a range of threats including inappropriate fire management.

For these opportunities to be fully explored more accurate assessments of the carbon stored in native ecosystems need to be undertaken and the emissions from loss or degradation more accurately accounted and reported. As new data is gathered for forests, woodlands and other vegetation types it is clear that far more refinement and accuracy is possible in measurement, accounting and reporting on all ecosystems. It is also clear that current assumptions about carbon stocks in native vegetation can be significantly in error.

There are a range of ‘complementary approaches’ that could protect carbon stocks and reduce GHG emissions from loss or damage to native vegetation more quickly and more effectively than the proposed ETS. Human-induced emissions can be rapidly reduced (2 years) through assistance with structural change, legislative regulation and/or appropriate taxation or other financial incentives.

Linkages and synergies between biodiversity protection and restoration and climate mitigation are clear. Protection and restoration of biodiverse natural systems offers the best prospect of achieving permanence of carbon storage in vegetation and will be an essential component of strategies to assist nature adapt to climate change.

The framework for assessing the contribution forests can play in mitigating climate change needs to be re-drawn to clearly distinguish between the potential role of native forests and agricultural tree crops (plantations). It should focus primarily on achieving early GHG emissions reductions and secondarily on medium to long term sequestration potential.

Any programme aimed at reducing human induced GHG emissions from native vegetation offers the added benefit of greatly improving long term bio-sequestration.

Great caution needs to be exercised before promoting biofuel and biomass projects. Any project that involves replacement of or extraction from, natural systems will not be carbon neutral, will be ecologically damaging and should be prohibited.

Voluntary offset programmes need to be accredited against a range of climate and ecological criteria. If governance of such projects is improved, they offer the prospect of providing financial returns to indigenous and other landholders to support sound climate mitigation strategies.

Forest management should be a compulsory activity under article 3.4 of the Kyoto Protocol. We must accurately account for the carbon in Australia's forests and accurately report and account emissions from logging. The proposed approach to the treatment of harvested wood products is deeply flawed and should not be pursued.

It is imperative that the EPBC Act 1999 is amended to require all major agricultural and industrial projects to be assessed for their climate change implications.

The broader recommendations of the Climate Action Network Australia are supported by The Wilderness Society.

RECOMMENDATIONS

1. Biodiversity and Climate – Common Ground

1a. Policies, legislation and financial incentives should be developed which recognize the role of biodiversity in mitigating climate change. They should firstly be aimed at reducing emissions from native vegetation loss and degradation; and secondly at facilitating restoration of the natural carbon carrying capacity of native ecosystems.

1b. Taxation and voluntary offset programmes should be strengthened to maximize benefits to indigenous and local communities who participate in long term ecological protection and restoration activities. Offset programmes should be accredited against a range of climate and ecological criteria to ensure robust outcomes.

1c. Bio-sequestration projects with the potential to damage other ecological processes and biodiversity should be prohibited. This particularly applies to proposals to artificially ‘enhance’ carbon dioxide up-take in the marine environment.

1d. Research should be undertaken into whether restoring the ecological health of our oceans and marine environment could improve their natural carbon carrying capacity.

1e. Research should be encouraged into the current carbon stocks, natural carbon carrying capacity and degrading factors for all natural ecosystems in Australia.

2. Forests and Climate

2a. The underlying assumptions that have shaped policy approaches, measurement and accounting methodologies on carbon and forests are deeply flawed and need to be revised. Policy and approaches must differentiate between the role native forests can play in mitigating climate change and the role agricultural tree crops (plantations) should play, recognizing that their roles could be complementary but different. Until such re-assessment occurs we do not support the inclusion of plantations for wood production or native forests in the proposed ETS.

2b. The focus of government policies on native forests and climate change should be to reduce carbon dioxide emissions from forest degradation (logging) within a very short period of time. Ideally measures should be

introduced to reduce emissions from this sector by 2010 to complement the ETS and help Australia make deep cuts (at least 40%) to GHG emissions by 2020.

2c. New research reveals serious inadequacies in the measurement and accounting for carbon in native forests and this failing must be rectified in order to build an accurate picture of the scale of gross emissions from native forest logging and their carbon sequestration potential.

2d. The opportunity provided by our extensive plantation estate to rapidly phase out commodity production in native forests should be seized. Consistent with the government's desire to develop complementary measures to achieve abatement at the lowest possible cost in sectors not covered by the CPRS, a structural adjustment package should be developed to assist native forest commodity producers exit the industry or transition to plantations. This could be achieved at a cost well below the carbon value of avoided emissions.

2e. Under the Kyoto and UNFCCC processes, the definition of a forest should be changed to reflect the ecological (and climate) differences between native forests and plantations. The definition of deforestation should be revised to incorporate loss of natural structural and compositional diversity and should cover conversion of natural forests to monocultural plantation or biofuel tree crops. The definition of degradation should be "all human land-use activity that reduces the current carbon stock in natural forest below its carbon carrying capacity."

2f. Australia should commit to mandatory accounting and reporting of forest management and de-vegetation under article 3.4 of the Kyoto Protocol, or its equivalent in the post-Kyoto protocol.

2g. There are a series of definitional and accounting rule changes on LULUCF proposed in Attachments A and B.

3. Biofuels and Biomass:

3a. Australia should exercise great caution before approving biofuel projects and any project which involves clearing and converting a native ecosystem should be banned.

3b. Loopholes in the Kyoto Protocol that facilitate conversion of native forests to biofuel tree crops should be closed.

3c. The recommendation in the Green Paper that emissions from biofuels and biomass for energy receive a zero rating is strongly opposed.

4. Harvested Wood Products:

4a. Any proposal to ‘credit’ harvested wood products’ in the ETS would be strongly opposed, as are proposals to modify international accounting rules to accommodate harvested wood products.

5. Deforestation (Land Clearing):

5a. Australia’s ability to meet its generous Kyoto target is threatened by our failure to end broad scale land clearing. Legislation and regulation in NSW and QLD needs to be tightened urgently and penalties and incentives developed to discourage illegal clearing.

6. Northern Australia:

6a. The global significance of the tropical savannas of Northern Australia’s should be recognised through a suite of policies aimed at protecting and restoring their carbon carrying capacity.

- Ensuring the cessation of any further large scale land clearing across Northern Australia, including regrowth;
- Rejecting irrigation expansion as a solution to climate change including groundwater driven irrigation;
- Banning the use of invasive pasture grasses and providing incentives to encourage native grass use and weed control;
- Promoting native vegetation restoration as a carbon sink; and,
- Establishing a bio-security workforce to protect Australia from invasions by weeds and pathogens through early detection and action.

6b. An appropriate legal and regulatory framework should be established to encourage biologically and socially sustainable fire management projects (and other GHG abatement projects) under which voluntary offset arrangements could be accredited.

6c. GHG abatement projects should have their impacts on flora and fauna closely monitored.

6d. Incentives for GHG abatement projects should be developed on a sliding scale - giving greatest benefit to projects with the best biodiversity outcomes.

6e. The protected area network in Northern Australia needs to be expanded rapidly to help deal with climate and other threats to nature across the north.

6f. A detailed research agenda should be undertaken to assess the current carbon stock and reasons why the stock may be below natural carbon carrying capacity. The relationship between intensive grazing, woody thickening and carbon stocks in vegetation and in soils needs to be better understood.

6g. The impact of fire management on carbon dioxide emissions should be assessed urgently. If these emissions are significant, they should be accounted for in Australia's National Greenhouse Accounts and help inform the international negotiating process over appropriate changes to the post-Kyoto protocol and decisions on the contribution they might make to strengthening Australia's GHG reduction targets.

7. Building Resilience in Natural Systems:

7a. Australia's national reserve system should be strengthened and expanded to ensure strong core protected areas with adequate connectivity to maximise the survival and adaptive capacity of species as the climate changes.

7b. Activities that damage ecological function and reduce connectivity across the landscape such as land clearing and logging high conservation value and old growth forests should end.

7c. Programmes to deal with non-climate threats to biodiversity such as ecologically unsound water extraction, inappropriate fire regimes, over-grazing, and invasive species should be expanded.

7d. The greenhouse benefit of ecological restoration activities should be recognised and supported when funding and planning climate change responses.

THE ROLE OF NATURAL SYSTEMS IN MITIGATING CLIMATE CHANGE

The impacts of climate change on biodiversity have received a modest level of attention from the Australian Government and a seriously inadequate level of attention in the UNFCCC and Kyoto processes.

However an unasked question is ‘what is the impact of biodiversity on climate change’?

Terrestrial and marine ecosystems play a critical role in regulating greenhouse gas concentrations in the atmosphere. Gorshkov *et al* (2000) argue that the negative feedback (with respect to increased concentrations of carbon dioxide) provided by enhanced plant growth has been critical to Earth’s long term ability to maintain climate within bounds conducive to life.

And Mackey *et al* (2008) argue that CO₂ uptake by the biosphere is the fastest path to transfer carbon out of the atmosphere; and that, not only is past and present vegetation loss contributing significantly to the concentrations of greenhouse gasses in the atmosphere, by continuing to clear and degrade natural vegetation we are also severely limiting the ability of natural systems to pull CO₂ out of the atmosphere. The more we degrade natural systems the worse our climate problems become.

Mackey *et al* (2008) also make it plain (when discussing the role of native forests in the carbon cycle) that it is the biodiverse nature of ecosystems that promotes resilience and longevity for carbon stocks³.

Non- forest native ecosystems are also known to contain very large carbon stocks. For instance Australia has the largest and most intact tropical savanna woodlands left on Earth (Woinarski *et al* 2008) and the largest, most intact temperate woodland left on Earth (Watson *et al*). The tropical savanna region of Northern Australia has been estimated to have the potential to sequester 380 MtC/yr under current management and 475 MtC/yr with proper fire management (Beringer *et al* 2007). An analysis is only now being conducted of the ‘carbon carrying capacity’ of the Great

³ Mackey, BG, Keith, H, Berry SL and Lindenmayer, DB, 2008, Green Carbon: the role of natural forests in carbon storage: part 1: a green carbon account of Australia’s south-eastern eucalypt forests, and policy implications, ANU E-Press, pp 14-16, http://epress.anu.edu.au/green_carbon_citation.html

Western Woodlands in WA and the avoided emissions and sequestration potential associated with improved management.

There are therefore sound reasons to look for synergies between biodiversity protection and restoration and climate solutions. Large scale ecological protection and restoration programmes offer the prospect of optimising the benefits for biodiversity, avoiding substantial greenhouse gas emissions and fostering long term carbon sequestration and storage.

Accordingly, a critical element in approaches aimed at solving the climate crisis must be to promote policies that minimise emissions from native vegetation loss and degradation and encourage the protection and restoration of carbon stocks in natural ecosystems.

Research should be encouraged into the current carbon stocks, natural carbon carrying capacity and degrading factors for all natural ecosystems in Australia.

Taxation incentives and voluntary offset programmes should be strengthened to maximize benefits to indigenous and local communities who participate in long term ecological protection and restoration initiatives. Offset programmes should be accredited against a range of climate and ecological criteria to ensure robust outcomes.

We concur with Garnaut that the simplest way to remove carbon dioxide from the atmosphere is to use the natural process of photosynthesis in plants including algae. However, TWS warns against any measure to sequester carbon from the atmosphere that brings with it unacceptable impacts to the natural environment. For example, the Garnaut report canvasses the harvest and burial of terrestrial biomass in locations such as deep ocean sediments where carbon cycling is slow (Metzger *et al* 2002) and the fertilisation of the ocean with iron and nitrogen to increase carbon sequestration (Buesseler & Boyd, 2003).

The ocean, a critical climate and ecological regulator of Earth's environment, is already under threat from climate change. As a critical ecological system in its own right it needs protective measures. It should not be treated as a dumping ground or used for risky and unsubstantiated geo-technical fixes of human-induced global warming.

Further research is needed into whether restoring the ecological health of our oceans and marine environment could improve their natural carbon carrying capacity.

THE ROLE OF FORESTS IN MITIGATING CLIMATE CHANGE

The Green Paper proposes that ‘reforestation’ be covered by the proposed Carbon Pollution Reduction Scheme on a voluntary basis from scheme commencement in 2010.

A fundamental problem with the suggested approach of allowing plantation forestry to opt in or opt out of the CPRS is that it would facilitate gaming of the scheme, particularly by wood producers with both plantation and native forest interests with significant potential to increase emissions in the native forest sector.

Our problems with the suggested approach are, however, more fundamental.

For reasons which remain unclear little analysis is presented of the native forest sector or of the assumptions which underpin Australia’s decision not to account for forest management under article 3.4 of the Kyoto Protocol. The analysis which is presented is largely unsubstantiated.

With the decision at Bali to develop measures to reduce emissions from deforestation and degradation in developing countries (REDD) and with the current provisions of the Kyoto Protocol relating to forestry and agriculture in developed countries on the table for discussion, there is an opportunity to have a complete re-think about the potential role of forests in mitigating climate change. The highest priority should be to reduce gross emissions from forestry operations. Increasing sequestration should be a secondary objective. (There is already pressure from developing countries to focus on reducing emissions from forests in all countries).

Recent scientific analysis by a research team at the ANU concludes: *‘we can no longer afford to ignore emissions caused by deforestation and forest degradation⁴ from every biome (that is we need to consider boreal, tropical and temperate forests) and in every nation (whether economically developing or developed). We need to take a fresh look at forests through a*

⁴ Forest Degradation: “all human land-use activity that reduces the current carbon stock in a natural forest compared with its natural carbon carrying capacity” Mackey *et al*, 2008, *ibid*, p36

*carbon and climate change lens and reconsider how they are valued and what we are doing to them.*⁵

As the world looks afresh at the role forests can play two things are clear. REDD offers the prospect of making deep cuts to greenhouse gas emissions in a rapid time frame; and native forests in Australia offer a similar opportunity. To capitalise on this opportunity we need to look more closely at the underlying assumptions that have shaped the current approach to forestry.

The need to distinguish between the role of native forests and agricultural Plantations

It has been assumed that carbon lost in native forests can be easily offset by carbon captured in agricultural plantations. This assumption is deeply flawed. The carbon stocks in plantations will always be less (40-60% depending on intensity of land use and forest type) than in an undisturbed natural forest⁶. Native forests can remain net emitters of carbon for up to 22 years after logging (Dean *pers comm* 2008⁷). Most importantly, *‘native forests are more resilient to climate change and other disturbances than plantations because of their genetic, taxonomic and functional biodiversity. This resilience includes regeneration after fire, resistance to and recovery from pests and diseases and adaptation to changes in radiation, temperature and water availability.’*⁸

Just because plantation and native forest wood products are highly substitutable does not mean that their carbon value is highly substitutable - nor are their ecological roles.

A recent study by researchers from the Australian National University suggests that for plantations to achieve the same sequestration benefit as halting logging in the native forest study area investigated⁹, would require a conservatively estimated additional four million hectares of plantations at a cost of \$18 billion (or \$35 billion if established through Managed Investment Schemes) (Ajani, 2008)

⁵ Mackey *et al*, 2008, *ibid*, p12.

⁶ Mackey *et al*, 2008, *ibid*, pp 6 and 17.

⁷ Dean, Christopher, 2008, personal communication, Australian National University, Canberra.

⁸ Mackey *et al*, 2008, *ibid*, p16

⁹ Mackey *et al*, 2008, *ibid*, p38

Blakers (2008) states “*Between 1990 and 2006, uptake by new plantations recovered only a fraction of the emissions from clearing and native forest logging (uptakes 225Mt CO₂-e; emissions 1875 Mt CO₂-e)*”¹⁰

A key finding of the ANU research (Mackey et al) is that Australia has seriously underestimated the ‘carbon carrying capacity’¹¹ of Australia’s temperate forests and suggests that there is significant potential to reduce emissions from native forest logging and to sequester very large amounts of carbon in a far more resilient carbon stock than plantations.

The ANU researchers found that in the 14.5 million hectare study area, from South East Queensland to Tasmania, our temperate native forests could store 9.3 gigatonnes of carbon if undisturbed by human activity¹². This is equivalent to 25.5 gigatonnes of CO₂¹³, or avoided emissions of 460Mt CO₂ yr¹⁴ (or about 45 times Australia’s current annual greenhouse emissions under the Kyoto Protocol (Ryan, *pers comm* 2008¹⁵)).

56% of the study area was considered to be at least 40% below its natural carrying capacity due to logging.¹⁶ While further analyses are needed, ‘*The sequestration potential of allowing logged forests to recover from logging could be equivalent to avoided emissions of 136 Mt CO₂ yr (or 25% of Australia’s current emissions) for each of the next 100 years*’.¹⁷ These estimates alone should give cause for a re-think about the potential contribution to climate mitigation from a rapid phase out of native logging.

These results, which were based on site data from a wide range of unlogged sites, demonstrate that significantly more carbon is able to be stored in forest ecosystems than previously thought and imply that emissions of CO₂ associated with logging are likely to be much greater than previously estimated. See page 29 of the ANU report for a comparison which shows the carbon able to be stored in Australia’s south east temperate forests is on average three times greater than the IPCC default values for temperate forests; and page 31 for a comparison with analysis using the National Carbon Accounting System (NCAS).¹⁸ The reason that carbon values are

¹⁰ Blakers, M, 2008, Biocarbon, biodiversity and climate change. A REDD Plus scheme for Australia, *Green Institute Working Paper 3*, p2.

¹¹ Carbon Carrying capacity of forest: maximum carbon stock when undisturbed by humans. Mackey *et al*, 2008, *ibid*, p33.

¹² Mackey *et al*, *ibid*, pp 29, 37.

¹³ Mackey *et al*, *ibid*, p 37.

¹⁴ Mackey *et al*, *ibid*, p 38.

¹⁵ Fiona Ryan, Climate Change Policy Analyst, The Wilderness Society Inc

¹⁶ Mackey *et al*, *ibid*, p 37.

¹⁷ Mackey *et al*, *ibid*, p 38; Costa and Wilson 2000.

¹⁸ Mackey *et al*, *ibid*, pp 29 & 31.

much lower using NCAS is that that model has been calibrated against plantation and young re-growth forests.

When considering the contribution native forests are able to make to mitigating climate change it is important to assess our forest management actions against the difference between the current carbon stock and carbon carrying capacity. To do otherwise would be a significant opportunity cost.

This should be an important consideration globally as 50% of the Earth's forests have been cleared and much of the remainder seriously degraded by logging¹⁹ and other activities. Earth's forests are therefore substantially below their natural carbon carrying capacity.

The Government is currently directing forest climate policies at entirely the wrong sector - whether it be through taxation incentives or the proposed arrangements under the CPRS. Directing carbon investment into the plantation sector will deliver a relatively poor climate outcome. The outcome may even be negative if it discourages wood production from plantations and thereby increases logging in native forests (Ajani and Wood, 2008).

Given that we have only seven years in which to turn the global emissions trajectory around; that our current emissions trajectory is beyond the upper bounds of the IPCC estimates; and that we need to reduce emissions by at least 40% by 2020, we need to fully explore sensible options to make deep cuts to greenhouse gas emissions quickly.

It makes no sense to not properly account for emissions from native forest logging because we have decided not to account for forest management under article 3.4 of the Kyoto Protocol. Instead we should build a clear picture of the scale of current emissions and take up an unprecedented opportunity to dramatically and quickly reduce them.

This opportunity is provided by our extensive plantation estate. We need a much greater focus on the scale of emissions that could be avoided if we managed a rapid phase out of native forest logging. Such a path would offer the dual benefit of maximizing the long term sequestration of carbon.

The Role of Plantation Forestry

“The essence of the problem for plantations, native forests and climate change in the Government's Green Paper proposal is that land use has been incorrectly assigned to competing objectives of industry efficiency and

¹⁹ Mackey *et al*, *ibid*, p 14.

*climate change mitigation. Native forests, the less efficient resource for forestry industry competitiveness, are tagged for wood production with lost opportunities for the job they do best, carbon storage. Plantations, the less efficient and less reliable resource for carbon storage, are tagged for carbon storage with lost opportunities for the job they do best, wood supply”.*²⁰

Yet this situation could easily be reversed with relatively inexpensive Government support to take greater advantage of the radical improvement in the efficiency and volume of wood production from plantations.

Australia’s 1.9 million hectare plantation estate (53% softwood and 47% hardwood)²¹ currently supply two thirds of our wood: native forests supply one third. Over the next two years wood supply from plantations will increase by 60% (Parsons *et al*, 2007). Plantation supply will be almost three and half times greater than the volume of wood currently logged from native forests (Ajani, 2008). Australia’s plantation resources are currently being logged below capacity (Parsons *et al*, 2007; ABARE, 2008). Two million cubic metres of mature plantation wood remained unlogged in 2007, equivalent to a quarter of the annual native forest log cut (Ajani, 2008).

The highly efficient softwood plantation sawmillers have sent native forest sawn timber production into permanent decline and the ‘plantation for native forest’ substitution process is about to be repeated in the hardwood chip market. In “*Australia’s Transition from Native Forests to Plantations: The Implications for woodchips, Pulpmills, Tax Breaks and Climate Change*”, Judith Ajani demonstrates the increasing dominance of plantation processors in all sectors of the wood and wood products industry and outlines the economic reasons why.

Plantation forestry can therefore make an invaluable contribution to mitigating climate change through enabling commodity wood production to rapidly shift out of native forests and into the existing plantation estate. ‘*The CO₂ recapture time for plantations may be one to a few decades, depending on the age of the plantation when logged, while the recapture time for native forest wood is many decades longer, again depending on the age when logged*’.²²

²⁰ Ajani and Wood, 2008, pp 7-8.

²¹ ABARE, 2008, Australian Forest and Wood Products Statistics September and December Quarters 2007, p.18, http://www.abareconomics.com/publications_html/afwps/afwps_08/afwps_may08.pdf

²² Ajani, 2008, p16.

The opportunity cost of not allowing native forests to recover their natural carbon carrying capacity will entail a huge economic cost to other sectors of the Australian economy, if the government chooses to make the deep and rapid cuts to greenhouse gas emissions necessary to avoid dangerous climate change.

It is worth noting that the Government has projected a net sequestration by Kyoto Forest Plantations of 21 MtCO₂-e by 2010. This level of sequestration is projected to continue to 2020. However, it could be argued that this is business as usual sequestration as the Plantation 2020 Vision program established in 1997 had a goal of increasing plantations to 3 million hectares by 2020. The current level of sequestration is in line with that projection. This is another reason to question why any financial carbon based incentives should be provided to this sector.

Policy Options

The Green Paper²³ notes that:

- *we have ‘an opportunity to assess whether other policy measures are needed, in particular whether additional mitigation activities will be required to assist the transition to a low carbon economy’;*
- *‘complementary measures can achieve additional mitigation in uncovered sectors, and have the potential...to reduce the cost of emissions reductions more broadly’; and*
- *‘to provide a comprehensive mitigation response key complementary measures that are likely to be consistent with achieving abatement at the lowest possible cost are those that drive mitigation in sectors not covered by the scheme...’*

The cheapest and fastest route to reduce GHG emissions from the native forest sector would be to provide structural adjustment assistance to native forest commodity wood producers to exit the industry or transition to existing plantations.

Commonwealth and State Governments have considerable experience in this area and our estimates (Gillespie Economics, 2004) is that for an equivalent investment by the Commonwealth to that already made in carbon capture and storage from coal (CCS) (\$500 million) a transition out of native forest

²³ Australian Government, 2008, Carbon Pollution Reduction Scheme Green Paper, p82.

commodity wood production could be achieved in NSW, Victoria and most of Tasmania. As annual emissions from native forest logging are no less than 20 Mt per yr and more likely to be above 40 Mt per yr, the avoided emissions over the life of the Regional Forest Agreements (10-15 years) would make this a very attractive climate investment. Even if the cost was significantly higher, this is a far cheaper approach than paying \$20 per tonne, per year for the emissions. And of course Australia, would secure the additional benefit of ongoing relatively secure, sequestration as native forests recover their natural carbon carrying capacity.

Other sensible options are explored by Blakers, 2008 and Ajani and Wood, 2008. Both suggest that a fund be established and managed by a board with equivalent independent status to that of the Reserve Bank to oversee protection and management of Australia's native vegetation to maximise climate and biodiversity benefits for Australia.

There are many framework, definitional, measurement and accounting issues to be resolved before any form of forestry should be included in an ETS. A key issue to be clarified is whether an ETS, which focuses on flux not storage, is capable of providing a permanent income stream if native forests were protected. That is, could such a scheme recognize and reward the best climate outcome?

Definitions

The fundamentally different roles native forests and plantations play in mitigating climate change also needs to be reflected in how forests are defined, how deforestation is defined and how degradation is defined.

The current definition of a forest under the Kyoto Protocol is deeply flawed (see Attachment A). Not only did the Marakesh Accords recognise that the definition of forests adopted for the first commitment period was inadequate they recommended that biome based definitions be developed for the second and subsequent commitment periods.

Little or no work appears to be occurring on this issue and in the absence of leadership on this question we are proposing that at a minimum the definition of a forest distinguish between a natural forest and an agricultural tree crop. Such a distinction not only makes ecological and climate sense, it is critical to help avoid the pitfalls of the Kyoto Protocol which allows substitution of native forests by plantations and bio fuel tree crops without accounting for the carbon, biodiversity and water costs.

The definition of deforestation also needs to be revised to reflect the functional characteristics of different forest biomes. The present definition allows serious degradation of forests to occur to the point where their structure and composition are completely compromised. Replacing natural forests with a fuel or wood crop constitutes deforestation in an ecological sense and comes with a high carbon price. It would be logical to define such ecologically damaging activities as deforestation. This will be a critical issue in Northern Australia as we face pressure from bio fuel and wood producers to allow clearing of existing native forests and woodlands.

There is only one definition of forest degradation that makes sense in a climate change context, that is: *'all human land-use activity that reduces the current carbon stock in a natural forest compared with its natural carbon carrying capacity'*²⁴. Logically this would encompass logging, as global research has established that logged forests store 40-60% less carbon than un-logged forests.²⁵ It would also encompass a range of other activities including grazing, water extraction and inappropriate fire management.

Accounting Methodologies and Practices

Australia is yet to properly measure or account for the carbon stored in its native forests. Nor does it properly account for the emissions from logging native forests and it appears to use an inappropriate foundation for measuring carbon sequestration in native forests. It underestimates its carbon stocks and annual emissions and appears to overestimate annual sequestration. The Green Paper acknowledges that *'emissions estimations methodologies are less well developed for native forests because they are not accounted for under article 3.4'*.²⁶

Australia is required to report emissions from managed native forests under the UNFCCC accounting rules, which include emissions from logging native forests. The federal government estimates emissions from logging managed native forests to be about 20 Mt CO₂-e a year. Other estimates, notably by Blakers also utilizing AGO data, suggest that annual emissions from logging native forests are more likely to be in the order of 38 Mt CO₂-e a year (Blakers, 2007). Both sets of figures are likely to be underestimates because NCAS modeling is based on young re-growth and plantations, which has been demonstrated to seriously underestimate the carbon stored in native forests (Mackey *et al* 2008).

In the National Greenhouse Gas Inventory these emissions are more than cancelled out by the estimates of sequestration from re-growing forest (with

²⁴ Mackey *et al* 2008, p36

²⁵ Mackey *et al* 2008, p36

²⁶ Australian Government, 2008, Carbon Pollution Reduction Scheme Green Paper, p127.

sequestration estimated to be three times greater than emissions). It appears that growth rates from young plantations are imputed to apply to native forests which may in part explain this mysterious result. The current system also ignores the conversion of native forests to plantations and the significant associated emissions.

An important reporting failure is that Tier 3 methodology as defined by the IPCC, has not been utilized to account for native forest emissions. As a result Australia's Inventory Report to the UNFCCC is likely to be a gross underestimate of net emissions from native forests.

Activities under Article 3.4 of the Kyoto Protocol include 'Forest Management and Revegetation'. Australia chose a zero cap on forest management in the first commitment period.

The argument made in the Green Paper that Article 3.4 activities are too variable to include in Australia's Kyoto Protocol obligations does not apply to Forest Management for two reasons. Firstly, the variability discussed in Box 2.3 and figure 2.5 arises mostly from non forest sectors. Secondly, the emissions from fires are not large in comparison to emissions from logging and other activities. The CSIRO²⁷ shows that fire would normally account for only a small percentage of the 400 million tonne variation from year to year in Figure 2.5 of the Green Paper,.

Fires in resilient natural landscapes return to pre-fire biomass within 6 months to 5 years.

Moreover, in the current international negotiations there are many proposals to factor out non-direct human induced events such as wildfire. Factoring out would remove the variability in Australia's reported emissions caused by wildfire.

The Article 3.4 activity, 'Re-vegetation', offers the opportunity to count the greenhouse benefits of rehabilitating non-forest native vegetation with corresponding benefits for the climate and biodiversity.

Reducing 'de-vegetation' of non-forest vegetation offers Australia a further opportunity to reduce emissions. If re-vegetation is credited without corresponding de-vegetation activities being debited a situation will develop where sinks are accounted for while sources are not. Such asymmetric accounting is likely to create loopholes and perverse outcomes that will reduce the environmental benefits of a climate change regime.

²⁷ Graetz, RD, 2002, The net carbon dioxide flux from biomass burning on the Australian continent, *CSIRO Atmospheric Research Technical Paper no.61*.

In the negotiations leading to the Copenhagen agreement Australia should commit to including ‘de-vegetation’ as a mandatory reporting activity.

It should also be mandatory to account for Forest Management under any new protocol developed at Copenhagen.

We note that the Green Paper indicates that there is a ‘*general movement towards a more comprehensive and scientifically accurate international accounting framework*’ and comments that the CPRS ‘*should be flexible enough to incorporate accounting approaches that have been internationally agreed.*’²⁸

Recommended changes to international accounting rules for forests, peatlands and wetlands under LULUCF are contained in Attachment B.

Biofuels and Biomass Energy

The current accounting system has opened up two significant loopholes under the Kyoto Protocol relating to biofuels and biomass energy. The Wilderness Society agrees with the Green Paper conclusion that imported biofuels have not had to take into account emissions from deforestation in the country of origin and that therefore great caution needs to apply to imported bio fuels. Including fossil fuels such as petroleum in the ETS while not counting the emissions from biofuels creates an implicit subsidy to biofuels that could facilitate an activity that creates high emissions as well as potentially serious implications for biodiversity.

It has now been shown that converting natural ecosystems to produce bio fuel crops creates a carbon debt by releasing 17 to 420 times more carbon dioxide than the annual greenhouse gas reductions these bio fuels provide by replacing fossil fuels (Fargione *et al* 2008). The greater the natural carbon carrying capacity of a forest (and the more intact the forest carbon stocks), the greater will be the carbon debt from clearing to grow plantations. For eucalypt forests, recovery of the carbon debt from clearing intact natural forest through reforestation or afforestation takes more than 100 years (Roxburgh *et al* 2006).

Australia should therefore exercise great caution before approving biofuel projects; and any project that involves clearing and converting a native ecosystem should be banned.

²⁸ Australian Government, 2008, *Carbon Pollution Reduction Scheme Green Paper*, pp 119-122.

A similar loophole exists for biomass energy where emissions associated with logging to supply wood fuel are not counted towards Australia's emissions under the Kyoto Protocol. The term 'wood waste' is used to justify this on the grounds that the wood would be left to burn or rot anyway. Most of the wood removed from Australia's native forest is removed without legislative restriction on the basis that it is classified as "residue" (Department of Agriculture Fisheries and Forestry, 2003) or 'waste' and wood chipped for export for paper production. Wood chipping drives native forest logging in Australia (Ajani, 2007). Just as woodchipping fundamentally altered the way Australia's native forests are logged, so creating another market for so called 'wood waste' will increase logging and increase CO₂ emissions from native forest logging operations. In the face of a downturn in demand for Australian native forest woodchips (Ajani, 2007) even greater caution should be exercised in relation to any native forest based biomass project.

There are also a suite of biodiversity and site productivity problems raised by removing genuine wood waste from the forest floor. Nor should it be assumed that the rate of CO₂ release from decomposition of wood on the forest floor (which may take hundreds of years) is in any way comparable to the rate of release from a power furnace. From a climate, soil carbon and regeneration perspective we would be better off leaving 'waste' on the forest floor.

For a full analysis of the issues associated with biomass energy see the attached submission to the Senate Enquiry into Renewable Energy (Attachment C)

These loopholes should be closed in any agreement reached in Copenhagen and the burning of native forest wood waste excluded as an eligible source in domestic Renewable Energy legislation and any ETS.

The recommendation on p118 of the Green Paper that 'scheme obligations not apply to emissions from combustion of biofuels and biomass for energy and that they receive a zero rating' is strongly opposed.

Harvested Wood Products

The Green Paper²⁹ states that '*Australia has long advocated an alternative accounting approach under which emissions from the breakdown of wood products are reported when (on release to the atmosphere) and where (in the country) they occur*'.³⁰ The Green Paper also notes that '*recognition of*

²⁹ Australian Government, 2008, Carbon Pollution Reduction Scheme Green Paper, pp 119.

³⁰ Australian Government, 2008, Carbon Pollution Reduction Scheme Green Paper, pp 119-

the carbon stored in harvested wood products could be an advantage to timber growers...but that inclusion of harvested wood products in an ETS 'could undermine international tradeability of carbon pollution permits'.³¹

The most alarming feature of the proposal outlined in the Green Paper is that the proposed credits for Harvested Wood Products (HWP) appear to be divorced from the need to comprehensively assess the carbon impacts of logging native forests. If this is a correct interpretation, there would be a massive incentive to log even without any other market for the wood product.

The Green Paper is also silent on the issue of debits for wood products already in the waste stream. From the point of view of what the atmosphere sees, it would be logical to account for current emissions from decomposing or burnt wood products currently at the end of their life cycle. If such emissions were counted, it is questionable whether there would be any net benefit to the atmosphere from crediting HWP.

As far as native forests are concerned, the vast majority of HWP are woodchips which are exported (over 80% of the wood extracted from native forests is woodchipped for paper production). Under the proposal outlined in the Green Paper, this industry would appear to receive a credit with no debit three years later when paper has decomposed and released CO₂ back into the atmosphere because the release of CO₂ has occurred outside Australia³². Allocation of emissions from paper would pose a very complex challenge, as would allocation of emissions from a range of globally traded wood products. Any such economic boon to the highly profitable native forest woodchip sector would be obscene and a travesty from a climate and biodiversity perspective.

The negative consequences of including Harvested Wood Products in the post-Kyoto framework far outweigh the benefits. Particular attention should be paid to these concerns:

- Accounting for carbon stored in harvested wood products would discourage the maintenance and enhancement of forest carbon stocks and encourage a shift from forest carbon pools to wood product

122.

³¹ Australian Government, 2008, Carbon Pollution Reduction Scheme Green Paper, pp 119-122.

³² Over 80% of the trees logged in native forests end up as woodchips and that paper is estimated by industry analysts to release CO₂ into the atmosphere within 3 years of its manufacture (Jaakko Poyry, 2000; BRS, 2003).

- pools with associated emissions to the atmosphere. This would result in an incentive for increased logging activity and result in increased biodiversity impacts;
- Beginning to account for carbon stored in harvested wood products would generate new LULUCF credits without any change in activity (no additionality);
 - Accounting for carbon stored in harvested wood products would add a high level of complexity to an already-complex accounting system;
 - The current LULUCF rules do not require accounting under the Kyoto Protocol for forest degradation or even emissions from ‘sustainable forest management’; Introducing new credits for harvested wood products without addressing these emissions would create inappropriate accounting asymmetries that would undermine any emissions reduction achieved by the CPRS;
 - The mitigation potential from carbon storage and substitution effects from harvested wood products is small and delayed compared to the mitigation potential of avoiding deforestation and forest degradation;
 - The mitigation potential from energy and material substitution exists and is accounted for in the building, waste and energy sectors without having to account for carbon stored in harvested wood products;
 - Current inventories underestimate the amount of carbon stored in old growth forests, before conversion to managed forests or plantations. The carbon loss from old growth forests resulting from transformation to the wood product carbon pool is therefore underestimated by the current system and,
 - Various accounting approaches under consideration have challenges associated with them:
 - The stock-change approach could allow the generation of credits in Annex-1 countries resulting from activities such as tropical deforestation that actually produce a net emission to the atmosphere;
 - The production approach creates a responsibility for Parties to account for emissions occurring in other countries, well beyond their control;
 - The Atmospheric Flow approach creates an immediate sink effect for exporting countries and creates very different outcomes in the scale of credits for different Annex-1 Parties; and,
 - The “Emissions to Atmosphere” approach as currently proposed is asymmetrical because it would delay the accumulation of debits while not accounting for the debits from the decay of the existing HWP pool. This is the most

amenable to correction if the approach included the decay emissions from exiting wood products.

DEFORESTATION (LAND CLEARING)

The Kyoto Protocol and the UNFCCC have both been crucial in determining Australia's domestic actions on climate change. Perhaps the most significant impact of the Kyoto Protocol on land management in Australia is that it helped to bring in legislation to regulate land clearing.

The Green Paper acknowledges that emissions from deforestation remain a significant issue in Australia despite legislative changes in Queensland and NSW aimed at curbing CO₂ emissions from this source and despite Australia claiming to have met its generous Kyoto target thanks to this regulatory change.

Australia's National Greenhouse Accounts for 2005 indicate that net emissions from deforestation were estimated to be 13% of our annual emissions. Emissions from land clearing are large enough to threaten Australia's success in reaching its Kyoto Target. The National Carbon Accounting System (NCAS) was unable to produce a figure for landclearing for the latest 2006 National Greenhouse Accounts. The 11% figure in the 2006 accounts represents an average of emissions between 2003 and 2005.

In late August the Queensland 'Statewide Landcover and Trees Study' released alarming figures for land clearing in Queensland confirming that 375,000 hectares were cleared in 2005-06³³. According to WWF this resulted in the release of 41.1 million tonnes of CO₂ into the atmosphere³⁴.

By claiming 1990 as its target year, Australia was able to take advantage of a 60 million tonne reduction in land clearing emissions that occurred in the mid 1990s. This reduction occurred long before Australia agreed to a

³³ Queensland Government, 2008, *Landcover change in Queensland 2005-2006: state-wide land cover and trees study report*, http://www.nrw.qld.gov.au/slats/pdf/land_cover_change_0506/land_cover_change_0506.pdf

³⁴ WWF Australia, 2008, Qld forest clearing loopholes costly in climate change battle, media release 7 Sept 2008, <http://www.wwf.org.au/news/qld-forest-clearing-loopholes-costly-in-climate-change-battle/>

target under the Kyoto Protocol (1997). Yet the rate of land clearing since the mid 1990s has continued at its immediate pre Kyoto level.

Clearing of re-growth forest is counted under the Kyoto Protocol but is not covered by Queensland land clearing legislation. This is an important omission as these emissions will be counted under Australia's binding treaty commitment and they have fallen through the legislative cracks.

The latest estimate of land clearing emissions from the National Carbon Accounting System is for 2005 and this figure is higher than the emissions recorded from the late 1990s. Most of the clearing since the 1990's was carried out in Queensland and NSW. However, we do not have data from NCAS that is recent enough to determine whether there has been any effective impact from land clearing legislation in Queensland and NSW. Evidence suggests that NSW is suffering from regulatory and administrative failure and has been unable to reduce land clearing (see The Wilderness Society submission to the Garnaut Inquiry³⁵). In the 2005 inventory, 3% of Australia's total greenhouse gas emissions came from land clearing in NSW.

The Australian Government has estimated that regulation by the Queensland and New South Wales governments will reduce emissions by 20 Mt CO₂-e pr/yr (Australian Greenhouse Office, 2006). If the clearing of re-growth was reduced this could reduce emissions by up to 15 MtCO₂-e (*ibid*). So the total potential from this sector would be at least 35 MtCO₂-e per year up to 2012 and beyond.

While we support the recommendation of the Green Paper to not include deforestation in the proposed ETS, clearly regulation urgently needs to be tightened and incentives developed to end broad scale clearing of native vegetation.

³⁵ The Wilderness Society Inc submission to the Garnaut Inquiry³⁵, 4th February 2008, <http://www.garnautreview.org.au/CA25734E0016A131/pages/submissions#1>

NORTHERN AUSTRALIA

Nowhere is the commitment in the Green Paper to reduce emissions from deforestation more important than in Australia's North. 12% of the world's tropical savannas are located in Northern Australia and they are likely to have a significant impact on the continental scale carbon balance (Chen *et al*, 2003). Globally, damage to savanna ecosystems from grazing and fire is having a similar impact to deforestation of tropical rainforests (Grace *et al*, 2006).

There is considerable scope to substantially improve the management and protection of Australia's tropical savannas and thereby substantially reduce greenhouse gas emissions and improve their natural long term carbon carrying capacity.

Measures to combat the impacts of climate change in Northern Australia should maintain the health and resilience of the globally important ecological processes and features of northern Australia. In doing so they would make the best contribution to the overall reduction of GHG emissions.

It is estimated that current savanna burning in Northern Australia contributes approximately 1.5% to overall Australian GHG emissions (AGDCC, 2007) and that the clearing of 26,000 hectares of forest on the Tiwi Islands released approximately 4.7 million tonnes of GHG emissions.

Proposals now abound which threaten the integrity of the largest, most intact and healthy tropical savanna ecosystem left on Earth (Woinarski *et al*, 2007). Suggestions that broad scale agriculture (associated with broad scale clearing of native vegetation) should move from the south to the north must have their full climate, biodiversity and water impacts fully assessed. Any sensible response to climate change would discourage such projects. Similarly, there is talk of establishing biofuel plantations in Northern Australia. If such proposals involve clearing of native vegetation they are likely to be both climate and biodiversity negative.

Moreover, the impacts of broad scale clearing on regional climate (McAlpine, 2007; Chagon and Bras, 2005) are now well established. Both the West Australian wheat belt and large parts of central Queensland have experienced average temperature rises of up to 2 degrees and significantly reduced rainfall directly attributable to the impacts of native vegetation loss.

Legislation banning broad scale clearing of natural ecosystems for agriculture, including wood and bio fuel plantations, such as that

introduced for Cape York in Queensland, should be introduced by the WA and NT governments and be strongly supported by the Commonwealth.

The potential scale of avoided GHG emissions from improved management of the tropical savannas has yet to be fully assessed. In particular the IPCC assumption that fires are carbon neutral has been challenged by research by Beringer *et al* (2007), and needs to be reconsidered (also see page three of this submission).

A single project, the West Arnhem Land Fire Abatement (WALFA) Project, is estimated to have saved Australia between 96,000 and 200,000 tonnes a year of CO₂ –e by reducing the spatial extent and intensity of fires (Woinarski *et al*, 2007).

Savanna fires are not only consistently the greatest contributor to GHG emissions in the Northern Territory, they are a key threatening process to biodiversity and ecological health. Restoring traditional fire management practices would optimize biodiversity and climate benefits.

Restoring traditional fire management also offers the prospect of significant economic, cultural and social benefits to indigenous Australians who wish to engage in projects to look after their country. The WALFA project strategically prescribes early dry season fires to reduce the total area burnt each year (from approximately 60% to 25% of the 28 million hectare WALFA area). In the first three years the project reduced GHG emissions by 450,000 tCO₂-e, at a cost of \$1 million per year. The project employs 30 indigenous fire managers.

Climate specific policies and actions for Northern Australia

There are a wide range of specific policies required to protect and restore the natural carbon carrying capacity of Northern Australia. These include:

- Ensuring the cessation of any further large scale land clearing across Northern Australia, including regrowth, to reduce GHG emissions through a) the introduction and enforcement of clear, defined legislation banning broad-scale clearing of previously uncleared bushland across all states, and b) through federal programs such as Caring For Country to ensure controls on broad-scale clearing are implemented in all jurisdictions;
- Rejecting irrigation expansion as a solution to climate change including groundwater driven irrigation;
- Banning the use of invasive pasture grasses and providing incentives to encourage native grass use and weed control;
- Promoting native vegetation restoration as a carbon sink; and,

- Establishing a bio-security workforce to protect Australia from invasions by weeds and pathogens through early detection and action.

An appropriate legal and regulatory framework also needs to be established to encourage biologically and socially sustainable fire management projects (and other GHG abatement projects) under which voluntary offset arrangements, such as the WALFA initiative, could be accredited.

To ensure biological sustainability, GHG abatement projects would need to have their impacts on flora and fauna closely monitored. Incentives for GHG abatement projects should be developed on a sliding scale - giving greatest benefit to projects with the best biodiversity outcomes.

Appropriate policies and mechanisms to protect the unique natural and cultural heritage of Northern Australia have yet to be developed. And as Professor Garnaut notes, much of this heritage is under direct threat from climate change. There is an urgent need to expand the protected area network in Northern Australia to help deal with climate and other threats to nature across the north.

Further research required for Northern Australia

We are at an early stage in understanding the potential role protecting and restoring natural systems in Northern Australia could play in mitigating climate change.

A detailed assessment of both the existing carbon stock and natural carbon carrying capacity of different ecosystems needs to be undertaken across the region. If current stocks are below the natural carbon carrying capacity, it would be useful to identify whether this is due to changed fire and/or grazing regimes. The relationship between intensive grazing, woody thickening and carbon stocks in vegetation and in soils needs to be better understood. And we recommend a major research initiative to clarify these questions.

The impact of fire management on carbon dioxide emissions should be assessed urgently. (At present, only methane and nitrous oxide production from savanna fires are included in Australia's Greenhouse Accounts (as required under Annex A of the Kyoto Protocol)). If, as suspected, these emissions are significant, they should not only be accounted for in Australia's National Greenhouse Accounts, they should help inform the international negotiating process over appropriate changes to the post-Kyoto

protocol and decisions on the contribution they might make to strengthening Australia's GHG reduction targets.

BUILDING RESILIENCE IN NATURAL SYSTEMS

Whilst mitigation is a crucial pillar of the government's action on climate change, and this submission focuses primarily on the role of natural systems in mitigating carbon emissions, there remains the crucial task of building resilience for long term biodiversity protection. And, as noted at the beginning of this submission, there are many actions open to governments which would optimise biodiversity protection and mitigation.

We note that there is recognition in the Green paper of the considerable risk to the natural environment and that the costs of inaction from damage to, or asset loss from, the natural environment are highly likely to exceed the costs of adaptation.

We consider this to be absolutely the case with the natural environment and support four key areas of action, namely:

- improving our knowledge about the impacts of climate change
- strengthening the ability of Australians to respond to the impact of climate change
- assisting areas of national vulnerability to climate change impact and,
- maximizing the synergies between biodiversity protection and climate mitigation strategies.

There is a danger of causing more problems for life on Earth than we solve, if we ignore the inextricable linkages between ecological processes.

Acting swiftly to build resilience is crucial and urgent for long term survival of the rich biologically diverse natural world we currently experience.

Australia is home to nearly 10% of the planet's animal and plant species. This rich biodiversity is already threatened by habitat loss and fragmentation, changed fire and water regimes, invasive species, urbanisation, over-exploitation (especially in our marine environments) and local pollution. When natural habitats are small, highly fragmented or subject to other damaging and degrading impacts, the threat of climate change induced extinctions is high.

Climate change threatens natural systems through impacts including (but in no way limited to):

- loss of habitat;

- changes to species distributions;
- changes to flowering, fruiting, breeding and migratory patterns;
- drying out of wetlands;
- less/more frequent flushing of aquatic systems;
- loss of snow cover;
- greater flooding and storm surge;
- greater disturbance from cyclones and storms;
- changes to water current and nutrient flows;
- seawater inundation;
- increased ocean acidity and damage to shell bearing species;
- interruption of crucial breeding and feeding cycles; and,
- alteration of ecosystem function through loss of key species.

Many species of plants and animals are directly threatened with extinction due to climate change and habitat fragmentation. Species such as the Golden Bowerbird and the Mountain Pigmy Possum have been predicted to become extinct with relatively small climate changes, well below the worst case scenarios.

The IPCC 4th Assessment Report says that “20-30% of plant and animal species assessed so far are likely to be at increased risk of extinction if increases in global average temperature exceed 1.5-2.5°C”³⁶.

Not only terrestrial systems but marine systems are at serious risk from climate change, as the temperature and acidity of seawater increases and atmospheric and oceanic circulation is altered.

As little as a 1 degree rise in average water temperatures places huge pressure on delicate marine ecosystems such as coral reefs. Mass coral bleaching events have already occurred in the Great Barrier Reef, in WA’s north-west coral reefs and around the world. More severe storms ravage fragile coastal and intertidal ecosystems. Huge ice sheets are already melting, affecting life on land and in the oceans.

Ocean acidity has increased globally as a result of uptake of carbon dioxide, the largest increase being in the higher latitudes where the water is cooler³⁷. The oceans are now more acidic than at any time in the last 420 000 years (Hoegh-Guldberg *et al*, 2007).

³⁶ IPCC Working Group II, 2007, *4th Assessment Report, Summary for Policy Makers*. (Temperature increase referred to is compared to the 1980s-1990s.)

³⁷ IPCC, 2007, p 405.

This harms plants and animals that form shells such as corals, plankton, marine snails, clams, oysters and lobsters. Many of these sea creatures provide critical food sources or habitats for other organisms and plankton; and are crucial because their photosynthesis is the source of over 50% of the world's oxygen.

Marine wildlife are already under threat from overfishing, mining and pollution, which make them more vulnerable to and less likely to cope with climate change.

In addition to drastic action to reduce greenhouse gas emissions, a range of actions are needed to give our marine and terrestrial biodiversity their best chance of survival.

Improving Protection and Connectivity

Many of our current protected areas on land and in the marine environment are isolated pockets, surrounded by development and exploitation. This lack of connectivity means many species and ecosystems already struggle to survive. As climate change reduces habitat further, it is vital that the protected area network is extended and connectivity between protected areas is radically improved.

The impacts of climate change must not be used as an excuse to abandon our natural ecosystems. Removing or minimizing long known threats to ecosystem health and function will do much to help plants and animals survive the impacts of climate change and in turn give nature its best chance to help mitigate climate change.

Off-Reserve Management

Actions to minimize other threats need to be taken across the landscape. For species and ecosystems to cope with the effects of climate change, efforts to protect habitat and improve connectivity must be combined with a comprehensive system of off-reserve management. Restoring ecological health and function across the landscape will give species their best chance of survival.

Great caution should be exercised before allowing any further degradation or fragmentation of largely intact natural systems – such as the northern tropical savannas, the Nullarbor or the Great Western Woodlands. Maximising the ecological health of these systems will also give us the best chance of protecting these huge carbon banks.

Similarly in marine ecosystems, management plans to control all off reserve activities – fishing, oil and gas, mineral extraction, shipping – is essential.

Environmental Restoration

Many activities that seek to repair damage done to ecosystems in the past and restore connectivity and ecosystem function, also reduce the amount of greenhouse gas in the atmosphere by storing carbon in plant matter. This includes environmental restoration plantings that return the original vegetation to the landscape.

Such activities should be recognised and encouraged for their greenhouse benefits in addition to their benefits to biodiversity and the provision of other environmental services. By restoring connectivity and at the same time restoring carbon to the land, these projects can have mutually reinforcing benefits.

Key Policy Actions

- Establish core protected area of reserves with adequate connectivity to maximise the survival and adaptive capacity of species as the climate changes.
- End activities that damage ecological function and reduce connectivity across the landscape such as land clearing and logging high conservation value and old growth forests.
- Expand programmes to deal with non-climate threats to biodiversity such as ecologically unsound water extraction, inappropriate fire regimes, over-grazing, and invasive species
- Take into account the greenhouse benefit of ecological restoration activities when funding and planning climate change responses.

CONCLUSIONS

Protecting and restoring the natural carbon carrying capacity of Australia's forests, woodlands and other natural ecosystems offers the best prospect of making deep and early cuts to Australia's GHG emissions. A 40% reduction in GHG emissions by 2020 is the minimum level required to help the world keep concentrations of GHG in the atmosphere below dangerous levels. This target is achievable if emissions from clearing and degrading natural ecosystems are dramatically reduced and our renewable energy sector and energy efficiency programmes are greatly strengthened.

Improved measurement of and accounting for, the impacts of clearing and degrading natural systems should be urgently undertaken to fully quantify the scale of emissions reduction possible over a short period of time. Further research and analysis should be done over the next 12-18 months so that policies can be put in place to coincide with implementation of the proposed ETS.

It is imperative to separate the emissions reduction benefits (which can be achieved very quickly) and the sequestration benefits (which occur over long periods of time) in policy decisions. Priority must be given to emissions reduction.

While changes in agricultural practices and systems may ultimately have an important role to play in climate mitigation strategies, it is important to recognize the different role and develop separate policy responses to, agricultural tree crops (plantations) and native forests. Long term resilience of carbon stocks requires climate mitigation policies to prioritise protection and restoration of native forests.

There is a direct and inextricable link between the overall ecological health of Australia and our ability to fight and adapt to climate change.

Measures and policies focused on removing known threats to nature such as inappropriate fire regimes, changed water regimes, invasive species, habitat loss and fragmentation need to be strengthened to give nature its best chance of coping with climate change. In doing so we would strengthen nature's capacity to help mitigate climate change.

Many measures aimed at helping nature adapt to climate change, such as improvements to our protected area networks and off reserve management, have direct synergies with climate mitigation strategies.

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ATTACHMENT A: A POSSIBLE APPROACH TO DEFINING FORESTS

The current definition used for reporting and accounting purposes under the Kyoto Protocol (hereafter, KP) is structurally based comprising:

- A minimum area of land of 0.05 hectares with tree crown cover (or equivalent stocking level) of more than 10 per cent with trees with the potential to reach a minimum height of 2 metres at maturity *in situ*.
- It includes (i) young stands of natural regeneration; (ii) all plantations which have yet to reach a crown density of 10-30 per cent or tree height of 2-5 metres; (iii) areas normally forming part of the forest area which are temporarily unstocked as a result of human intervention such as harvesting or natural causes but which are expected to revert to forest.

This definition makes no distinction between, among other things, planted crops of monoculture perennial woody plants and complex biodiverse natural forests. Note that the use of the term “natural forests” in this paper is synonymous with native forest; a term used in some countries.

The KP definition has already led to significantly perverse accounting and reporting outcomes. For example, where primary natural forests are cleared and converted to short rotation fuel and fibre crops, but this land cover change is not classed as deforestation nor the emissions from the land cover change accounted for. However, atmospheric forcing occurs from the increased emissions as it would if deforestation had technically occurred, and it will take hundreds of years to repay the carbon debt.

Further to existing concerns, proposals being put forward for ‘land-swapping’ by parties for the post 2012 commitment period would see even more perverse outcomes entrenched under the current definition. This is particularly ironic given that the main proponent of this proposal, New Zealand only allows logging in plantations.

Under the Marrakesh Accords the intrinsic problems with a structurally based definition were identified and parties were asked through SBSTA to come up with a Biome based definition, namely:

Decision 11/CP.7 Land use, land-use change and forestry 2 (b) To investigate the possible application of biome-specific forest definitions for the second and subsequent commitment periods with

a view to the Conference of the Parties at its tenth session recommending a decision for adoption on the use of such biome-specific forest definitions for future commitment periods to the Conference of the Parties.

As this decision has yet to be followed through and concluded it provides the basis for revision of the KP definition of forest. We therefore propose a solution that, while not addressing the admirable and desirable aim to establish biome based definitions, will at least prevent perverse outcomes associated with plantation development in the second commitment period under LULUCF rules. This revised definition would have the added advantage of forestalling similarly perverse outcomes becoming entrenched under future REDD mechanisms.

Proposed Definitions and operational suggestions

Under this proposal the existing structural definition would be retained and two sub categories erected under this definition.

These categories, 1 Natural Forests and 2 Plantations, would be separately accounted for and reported on, with Plantations treated under AFOLU as agriculture. This would avoid the current perverse outcomes because conversion would be treated in the same way as any other agriculture conversion and reported as deforestation and / or degradation.

1. Natural Forests

*A **natural forest** is a terrestrial ecosystem generated and maintained primarily through natural ecological and evolutionary processes. Natural forests are an essential part of the global carbon cycle, and have played, and continue to play, a major role in modulating the strength of the greenhouse affect.*

2. Plantations

*A **plantation** is a crop of trees planted and regularly harvested by humans, and is best thought of as an agricultural land use.*

Other relevant definitions:

3. Semi Natural Forests

Some 'forests' have been under intensive forest management for up to 7 rotations. This class of forest is often called 'semi-natural' where these forests are primarily used for wood production and are maintained by hand

planting, fertilizer application and the use of herbicides. Parties could nominate them as plantations for accounting and reporting purposes.

4. Natural Regrowth on Previously Cleared Land

In some regions forests can regenerate on previously cleared land from adjacent un-cleared areas, ground stored and / or wind-blown seed. If these are allowed to grow without significant management interventions they should be regarded as natural forests regardless of tenure.

5. Silvicultural Regeneration

These are forests which have been subjected to one or two intense logging cycles but allowed to regenerate with minimal intervention using natural seed fall and /or aerial seeding. This would be classed as natural forest as in the absence of further cutting they are capable of meeting the definition of natural forests.

6. Forest Restoration Plantings

In many regions trees are being planted in complex multi- species plantings or have been established as complex agro-forests with high structural and species diversity, in some cases the core species are native to the region. These systems may combine planted vegetation, providing both useful products and environmental services, with naturally occurring succession, stewarded by landowners over the long term. The sequestration of carbon is an additional service in those systems that include mature trees. In these circumstances, if the plantings are designated as permanent they could be nominated as natural forests for reporting and accounting purposes.

ATTACHMENT B: ACCOUNTING RULES AND PRINCIPLES FOR THE LULUCF SECTOR

In order to be ready for an environmentally effective system of LULUCF rules, Australia should upgrade its reporting of greenhouse emissions to IPCC Tier 3 accounting, the highest level recognised by the UNFCCC.

Australia only uses Tier 3 to account for emissions from land clearing and plantations. It should apply the same standard to Managed Native Forests³⁸.

Australia should recalibrate the National Carbon Accounting System with more accurate data on carbon stocks in native forests, as per recent ANU research data (Mackey *et al*, 2008).

Problems inherent in the Kyoto Protocol accounting for the LULUCF sector include:

- Creating a loophole for emissions from so called “wood waste” bioenergy which threatens the enormous stores of carbon in our native forests.
- Failure to recognise or account for the carbon lost from natural forests when they are converted to biofuel crops or plantations.
- Failure to include provisions to protect biodiversity and the rights of indigenous people both of which can be negatively affected by unsustainable greenhouse gas emissions mitigation activities.
- Failure to provide incentives to protect from logging the enormous carbon storage potential of native forests.
- Allowing countries to pick and choose which LULUCF activities to account for. This has proved to be an invitation for countries to game the system by including sinks and excluding emissions. Likewise allowing forestry to opt in and opt out of the Carbon Pollution Reduction Schemes would allow similar gaming of scheme. Increasing emissions in the uncovered sector of the economy.

Australia is considering changes to articles governing this sector as part of the international negotiations for the post 2012 agreement. These rules will frame the future treatment of LULUCF for Australia’s domestic policy.

³⁸ Department of Climate Change, 2008, National Inventory Report, Australia’s National Submissions to the UNFCCC.

The Copenhagen agreement should ensure that articles relating to LULUCF:

- Only count avoidable emissions. It should not credit business as usual activities or natural effects such as vegetation thickening.
- Encourage protection of the carbon storage capacity of our forests. This is crucial to avoiding dangerous climate change
- Not give credits for Harvested Wood Products as this will encourage further logging which will in turn reduce the carbon storage capacity of our forests and all the other issues raised elsewhere in this submission.
- Make LULUCF activities mandatory to prevent gaming of the system by countries picking sinks and excluding sources.
- Provide incentives to reduce wetland and peatland degradation.

Specific Accounting Issues

For a workable and efficient protection of our forest carbon stores the following accounting rules should be observed.

Activities-based versus Land-based Accounting

Although a land-based accounting approach may be the most conceptually sound, it is more appropriate to retain an activities-based approach given the technical and political challenges involved with moving to a land-based approach at this time. However this should not be used to erect new categories which further entrench existing asymmetries in accounting, for example the Green Paper's proposed approach to harvested wood products.

In preparation for a rational land-based approach full land-based methodologies for reporting under the UNFCCC should be developed and become mandatory. These should apply at Tier 3 IPCC level.

Flexibility for forest management accounting

Accounting for forest management under Article 3.4 must be mandatory. Retaining the ability of Parties to elect accounting for forest management encourages an asymmetrical system where Parties choose to account for forest management when it delivers credits but not when it delivers debits.

Factoring Out

Overall approach

While acknowledging the principle that Countries should not be rewarded and penalized for emissions and removals that are beyond their control, it is still important to ensure that forest management credits represent real emission reductions and that the accounting system be as robust as possible.

Factoring out is seen as some sort of shibboleth by many involved in the issues for a long time. The issue only becomes problematic if Annex 1 countries are largely focused on sinks. The Wilderness Society believes that if the focus is changed to the reduction of emissions that are avoidable, then unavoidable emissions that result from truly natural events, including events related to human forced climate change, should not have to be accounted for (but where possible should be reported). The converse would apply to CO₂ fertilisation with no requirement to attempt to factor out any possible gains.

There will be a robust debate around the margins because of the relationship between direct human induced disturbances like logging and drainage and negative impacts on ecosystem health and resilience, which in turn effects 'carbon carrying capacity'. The practice by the logging industry of salvage logging in response to natural events, like fire and beetle attack, creates one of the worst possible outcomes in terms of the ability of ecosystems to maintain their carbon carrying capacity and is clearly avoidable.

Specific methodologies

One option is to continue using gross-net accounting with a cap. Another is to replace the cap with discount factors.

Net-net accounting

While acknowledging that a move to net-net accounting would help facilitate factoring out it is imperative that the government assume liability for emissions in the base year/base period/baseline. There are a few options for governments to assume this liability:

- a. Adopt an emission reduction target for LULUCF if the sector continues to be treated as a generator of credits/debits, or;

- b. Incorporate LULUCF emissions into National totals that will be subject to the emission reduction commitment.
- c. Ensure that higher emission reduction targets are taken to integrate a mitigation ambition from the LULUCF sector.

Wetlands

Acknowledging that wetlands (especially peatlands) are an important, long-term carbon store that wetlands are already a large source of emissions globally and could become a larger source in Annex-1 countries, emissions from wetlands should be accounted for. However, given the current level of uncertainty regarding processes and measurements of emissions from wetlands, emissions accounting should focus on specific degrading activities such as industrial extraction or drainage of peatlands and could employ gross-net accounting similar to afforestation/reforestation/deforestation.

ATTACHMENT C

The Wilderness Society Inc

Submission to the COAG Working Group on Climate Change and Water

Design Option for the National Renewable Energy Target Scheme

6 August 2008

Summary

The Wilderness Society supports an expanded Renewable Energy Target (RET) as an essential component of Australia's climate change mitigation effort. For Australia to make its contribution to avoiding dangerous climate it needs to undertake a RET target of 25% by 2020.

However, bioenergy fueled by wood taken from native vegetation (especially forests) is unsustainable and should be categorically ruled out across Australia, because:

- Logging in native forest ecosystems in Australia is associated with a high emissions profile and restrains the capacity of the landscape to sequester carbon^{1,2}
- The impact on maintaining commodity logging cycles in native forest is to reduce the carbon carrying capacity by between 40% and 60%²
- Burning native 'wood waste' for energy establishes another market for residues which will make it economic to log species and forests which are currently unloggable and would be likely to lead to increases in logging rates or shorten rotation lengths, all of which would generate higher carbon dioxide emissions.
- In addition to a poor outcome for emissions, so called 'wood waste' plays a vital role in maintaining healthy bio-diverse forest ecosystems.

¹ Dean, C., Roxburgh, S. & Mackey, B.G. (2003) Growth modelling of *Eucalyptus regnans* for carbon accounting at the landscape scale. *Modelling Forest Systems* (eds A.Amaro, D. Reed & P. Soares), pp. 27–39. CABI Publishing, Wallingford, UK.

² Mackey et al 2008. Green Carbon: the role of natural carbon in carbon storage; part 1 A green carbon account of Australia's south-eastern eucalypt forests and policy implications. ANU E. press. Canberra

- While all mainland state governments except Western Australia have ruled out such projects, the Tasmanian government supports them, and the MRET scheme includes them in its definition of renewable energy.
- Under a Renewable Energy Target native forest wood waste will displace other truly renewable energy sources such as solar and wind.
- Controversy surrounding native forest wood waste will reduce public confidence in renewable energy and the National Renewable Energy Target Scheme.

The proposed National Renewable Energy Scheme should specifically exclude wood waste from native forest as an eligible renewable energy source.

Recommendation:

Native forest wood-waste should be added to the list of energy sources that are not eligible renewable energy sources in Section 17(2) of the Act³.

Background

In response to diminishing global demand for native forest woodchips, Australia's native forest logging industry is pushing a particularly destructive power generation option. Native forest-based electricity generators are seen as a lifeline to an ailing woodchip industry, but it would result in a huge loss of carbon stored in the forest. Native forest bioenergy would be a perverse outcome for a scheme funded by the community designed to facilitate renewable energy options such as wind and solar and reduce greenhouse gas emissions. Industry claims that native forest wood waste is renewable are based on the assumption that no new forest harvesting will occur.

History shows the management of our forests has always been determined by the markets for wood. No clearer example of this is provided than that of the export woodchip industry which lead to radical change in the way forests are logged (from selective logging to clearfell regimes). Woodchipping has made it economic to log vast areas of forest that would otherwise have been uneconomic and is now the major driver of native forest logging in Australia. The myth that woodchipping is based on forest residues or waste has long been dispelled. (Dargavel, J., "Fashioning Australia's Forests and Ajani, J., "The Forest Wars")

³ *Renewable Energy (Electricity) Act 2000*

Burning native forests to produce electricity jeopardises our ancient forests and the survival of threatened species that depend upon them. It could also aggravate climate change. The Federal Government's promised 20% national renewable energy target, requires that 20% of Australia's electricity supply must come from renewable sources. If burning native forests is included in this target, it would push aside other truly renewable energy sources and undermine Australia's ability to make the deep cuts in greenhouse pollution needed to avoid dangerous climate change.

Energy generated from burning native forests has been ruled out by all state governments except Western Australia and Tasmania. In addition, renewable energy retailers such as GreenPower have specifically rejected endorsing native forest-generated power.⁴

Current Proposals

There is an existing wood waste bioenergy proposal in Western Australia that is about to be approved by the Government. This proposal is 100% based on plantation waste and does not have the environmental impacts associated with native forest power generators. However, until a legislated ban on native forest inputs to all bioenergy plants is enacted, there is a risk that future wood inputs may be changed to accept native forest products.

In Tasmania there are three separate proposals for wood-fired power generators which would burn native forests of high conservation value. One of these proposals is at Gunns' controversial Tamar Valley pulp mill. 500,000 tonnes⁵ of green forest products would be burnt at the pulp mill each year. The renewable energy subsidy this would receive is an important factor in the profitability of the pulp mill proposal.

Degradation of the immense Carbon Storage Capacity of Native forests

Native forests release huge amounts of greenhouse pollution when they are logged. Logged forests typically contain between 40% and 60% less carbon than unlogged forests.¹ A recent Forestry Tasmania study shows that by 2030, the logging of Tasmania's commercial native forest estate will result in the loss of 28% of the carbon that is currently safely stored as living

⁴ Simon Miller, Acting Director-General, New South Wales Department of Water and Energy.

Letter to Senator Bob Brown. August 2007.

⁵ Gunns Ltd (July 2006) Bell bay Pulp Mill, Draft Integrated Impact Statement. Transport and Traffic Assessment, p.69

forest.⁶ Given the urgency in the global task of combating climate change, to continue this massive level of carbon emissions for decades is inexcusable.

Native forest wood waste will increase the level of logging.

The logging industry claims that native forest wood waste is carbon neutral because it would only be utilising wood which would burn or rot on the forest floor anyway.

In NSW live trees are classified as waste. In fact most of the wood taken from Australia's native forest is to produce woodchips and officially regarded as residue in *Australia's State of the Forest Report (2003)*⁷ However, this so called residue comprises the majority of logs taken from Australia's native forests. Figure 1 illustrates that the overwhelming majority of logs taken from Tasmania's native forest are used for what is claimed to be a waste product - woodchips.

Moreover such a statement misses the point that logging per se in native forest is not carbon neutral and that wood waste on the forest floor may take hundreds of years to decompose.

Emissions from burning 'forest waste' are likely to be even higher than leaving it on the forest floor because of transport emissions.

The scientific studies quoted by the industry⁸ that supports the use of native forest wood waste are based on the assumption that no additional logging will take place. However, this claim is contradicted by the recognition by the native forest logging industry that these so called residues drive the Tasmanian sawlog industry⁹.

The recent history of the native forest logging industry in Australia is that the industry is kept afloat by revenue from a residue product (Ajani 2008). Burning wood waste to generate electricity will only provide another such residue product which will result in more emissions from Australia's forests.

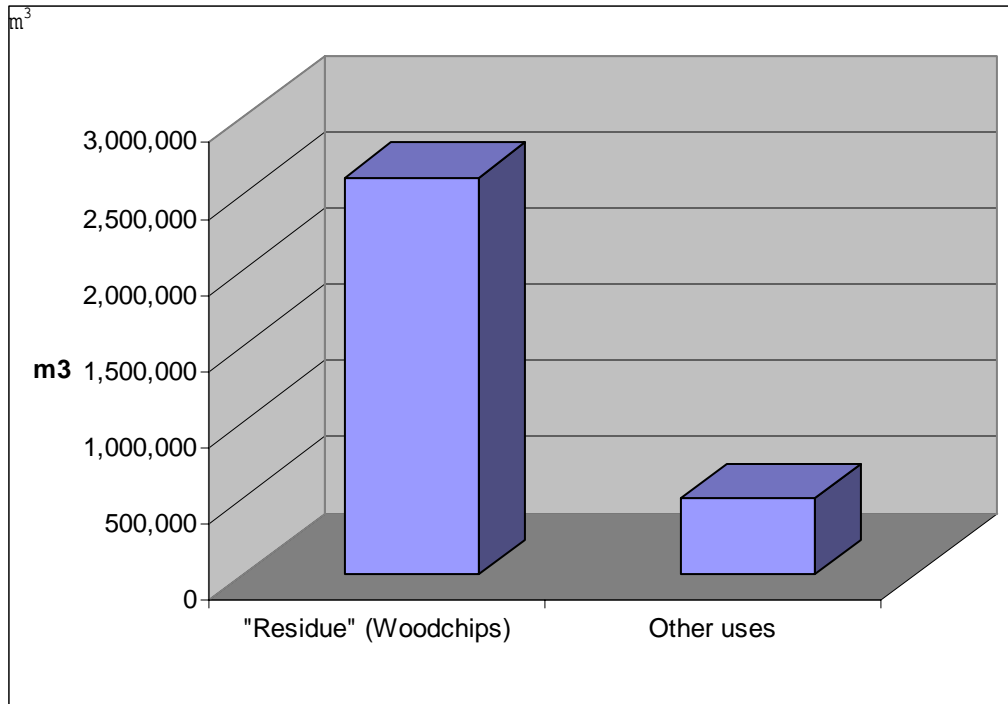
⁶ MBAC (2007), Forestry Tasmania's Carbon Sequestration Position
<http://www.forestrytas.com.au/uploads/File/pdf/2007-75%20FT%20Report%20Dec%202007.pdf>

⁷ Australia's State of the Environment Report. (2003) Dept of Agriculture, Fisheries and Forestry.

⁸ Raison et al (2002) CSIRO Client Report No.1122

⁹ John Gay, head of Gunns, Australia's biggest exporter of woodchips. Nine's Sunday Show. http://sunday.ninemsn.com.au/sunday/cover_stories/transcript_1205.asp

Figure 1. Log volumes removed from Tasmania’s native forests



The residue product woodchips, dominates Tasmanian native forest logging (adapted from Figure 14.1 Ajani 2008)

Impact on biodiversity and other environmental services

It is not only the science of carbon and climate change that is a powerful argument against native forest bioenergy. Biodiversity impacts, especially with invertebrates that rely on the coarse woody debris on the forest floor, will be particularly bad as successive logging rotations reduce the natural structure of the forest and push species closer to extinction.

A 2006 Federal Court ruling found that logging in a Tasmanian forest was not able to ensure the survival of three key threatened species and would push them closer to extinction.⁹ Even Forestry Tasmania acknowledge the issue and have said that *“the issue of waste raises interesting issues, as we now understand the importance of maintaining coarse woody debris on the forest floor for future maintenance of forest biodiversity, therefore the retention of logging residues is seen as an environmental necessity”*¹⁰.

¹⁰ Hans Drielsma, Executive General Manager. Forestry Tasmania, 22 December 2005.

Other bioenergy feed stocks

There are many feedstocks for the production of bioenergy ranging from organic wastes, agricultural and plantation forestry residues and bioenergy plantations. Many forms of bioenergy are sustainable, renewable sources of energy and should be encouraged. As with any source of energy the whole lifecycle of bioenergy production needs to be considered in order to ensure that it is sustainable.

Bioenergy plantations have huge potential in Australia due in part to their ability to grow on marginal lands, (provided there is no destruction of native vegetation); to provide numerous ecosystem services including reducing salinity and erosion; and to reinvigorate rural economies. In order to ensure that bioenergy plantations are sustainable it is vital that they only comprise diverse, non-genetically modified native species. These plantations must also be subject to stringent sustainability guidelines created in consultation with the industry, government, environmental groups and other relevant stakeholders.

Currently the Forest Stewardship Council (FSC) certification provides a minimum standard. Other widely promoted forest product certification schemes do not ensure that the forests are sustainably managed.

Public perception of wood waste bioenergy

In March 2001 the Wilderness Society commissioned a Morgan Poll on behalf of environmental groups found that 88% of people opposed the use of native forest wood fired power. In addition only 8% of those polled thought burning native forests was renewable. This compared with 12% who thought that nuclear energy was renewable.

Bioenergy from native forest is deeply unpopular with the public.

Electricity retailers are reluctant to sell electricity from native forest biomass. In our discussions with electricity retailers they see this public awareness of the environmental problems associated with burning native forests as being a major disincentive to the purchase of (REC) Renewable Energy Certificates from power stations which burn native forest material. An industry publication once referred to them as ‘dead Koala RECs’.

http://www.forestrytas.com.au/forestrytas/media_releases/two_visions_for_tasmania.htm

It is noteworthy that certifiers of GreenPower have stated that they will not certify power from burning native forests as renewable energy.

The controversy associated with native forest bioenergy is a threat to the public image of sustainable biomass and of renewable energy generally. Despite the environment movement repeatedly specifying that it is native forest bioenergy that is causing the environmental problems, continual bad publicity associated with native forest bioenergy projects has inevitably tarred sustainable bioenergy crops with the same brush.

The Commonwealth Government had committed to convening an expert panel to examine the issues around eligibility of native forest wood waste as a renewable energy source under MRET. This commitment was not carried through.

The Senate Committee that reviewed the legislation made the following first recommendation.

"The Committee recommends that non-plantation native forest wood products and wood wastes be specifically excluded from the list of eligible renewable energy sources."

Therefore the Wilderness Society strongly recommends:

Native forest wood-waste should be added to the list of energy sources that are not eligible renewable energy sources in Section 17(2) of the Act.

Conclusion

The case for including native forests wood in any renewable energy scheme is as weak as it was last time it was rejected. Its inclusion is only being considered because of a desire to incentivise the Gunns proposed Tamar Pulpmill mill and prop up the viability of the export woodchip sector as buyers seek less controversial sources. The atmosphere does not need the additional emissions that incentivising increased native forest access would create particularly when that access is itself a net emissions generating activity.

The Wilderness Society strongly supports the development of a viable a vibrant renewables energy sector. Bioenergy has a role to play particularly where fiber is being sourced from plantations established on land cleared before 1990.

The inevitable public controversy that will accompany wood waste bioenergy production will damage public confidence in sustainable bioenergy and also damage the image of the Renewable Energy Target.