

Introduction

The Papua New Guinea Forest Industries Association (PNG FIA) welcomes the opportunity to make this submission to the Garnaut Climate Change Review on its Interim Report to the Commonwealth, State and Territory Governments of Australia.

The PNG FIA is an industry peak body that represents the collective interests of more than 45 forest industry participants in Papua New Guinea. One of the PNG FIA's objectives is to foster balanced environmental, communication and economic responsibility and practical forest management principles within the forest industry sector.

Terms of reference

The Garnaut Review's terms of reference require the Review to report on two points that will potentially impact upon PNG FIA members. They are:

- The possible ameliorating effects of international policy reform on climate change, and the costs and benefits of various international and Australian policy interventions on Australian economic activity;
- The role that Australia can play in the development and implementation of effective international policies on climate change.

Responses to findings

The Emissions Trading Scheme Discussion Paper (ETSDP) makes findings that may impact upon the Papua New Guinea (PNG) forest industry. These findings rely on assumptions that are made in the Garnaut Review Interim Report (IR).

These assumptions are that:

1. CO2 emissions from forestry in PNG are high (based on the assumption that);
2. Deforestation rates in PNG are high;
3. PNG is in a position to make reductions in deforestation and forestry-related emissions quickly (and that avoided deforestation is the most effective way of doing this);
4. PNG will therefore be in a position to sell emissions credits to Australia;
5. Sales of these permits will deliver sustainable growth outcomes to rural communities.

The PNG FIA responds to the each of these assumptions below.

This submission from the PNG FIA responds to text in both the ETSDP and the IR; the ETSDP relies upon assumptions made in the IR.

The PNG FIA is making a submission only to the ETSDP (and not a general submission) because the PNG FIA's members will only be affected if PNG and Australia agree to a bilateral Australian Emissions Trading Scheme (AETS) arrangement.

Summary of responses

In responding to the ETSDP and IR, PNGFIA notes that:

- Data used by the Review on PNG's forestry-related emissions, and comparison between emissions from PNG and Australia is inconsistent and has a low degree of certainty. This data is used as the basis for the assertion that PNG has a high incentive to enter into a bilateral ETS arrangement with Australia.
- Data used by the Review on rates of deforestation in PNG has a high degree of uncertainty. This data is used as the basis for the assertion that PNG has a high incentive to enter into a bilateral ETS arrangement with Australia.
- The Review assumes that deforestation in Papua New Guinea has simple causes, not taking into account the fact that 76 per cent of forest loss in PNG (and therefore forestry related emissions) is caused by a complex set of factors. These factors will constitute a significant source of leakage under an ETS unless considered properly.
- The Review should not only consider avoided deforestation as a source of cuts in forestry related emissions. It must equally consider: the application of forest management and silviculture activities as a source of emission offsets; the use of harvested wood products as a source of credit generation.
- The Review must consider the optimal outcome for bilateral trading partners, particularly developing countries, when making recommendations on bilateral or multilateral agreements.
- The Review should consider economic implications prior to recommending subjecting developing countries to an emissions target.
- The Review should clearly articulate potential risks to any market-based incentives to reduce forestry related emissions for developing countries.
- The Review should recommend any international linkages with the AETS for forestry related credits be transparent throughout the supply chain; and that criteria and indicators for financial benefits and development outcomes be an essential component within these linkages; and that a transparent governance model is adopted, and that the market is fully competitive.
- The Review must consider any potential impact of the displacement of the forestry industry on development objectives in Papua New Guinea at social and economic levels.

Assumption 1: CO₂ emissions from Papua New Guinea are high

“PNG’s forestry related emissions may exceed 100 MtCO₂, a quarter of Australia’s CO₂ emissions ...” (IR, 43)¹

“PNG ... has large opportunities to reduce land-use change and forestry emissions ...” (ETSDP 35)

The IR and ETSDP assume that PNG’s forestry related emissions are significant, and significant compared to Australia’s emissions.

No reference is given in the IR for the claim that PNG’s forestry-related emissions may exceed 100MtCO₂. In Figure 9 in the IR, which follows this assertion, there is a chart headed “CO₂ emissions in Australia, PNG and Indonesia, 2000/2004”. The source cited is the World Resources Institute (WRI).

No reference for the WRI figures is given, but it is assumed that the WRI figure for PNG is drawn from the WRI’s Climate Analysis Indicators Tool (CAIT)² and/or WRI Earthwatch tables on CO₂ emissions.³ Both sources are restricted to emissions data for 2000, stating that PNG’s emissions for that year were 146MtCO₂, entirely due to Land Use Land Use Change and Forestry (LULUCF). Both sources draw on Houghton (2003)⁴ to derive this figure.

These figures used by the Review are problematic. They apply an estimate for “pan tropical” land use change emissions to PNG, which is a “regional estimate” and not an estimate for individual countries.⁵ This estimate was based on deforestation rates for forested tropical countries (discussed below). The author of these figures also concedes that the uncertainty for these figures is in the magnitude plus or minus 150 per cent.⁶

The following comparison between PNG’s forestry related emissions and Australia’s net emissions is inconsistent at best. The figures used in the report (via WRI and Houghton) for emissions from land-use change and forestry attribute 146MtCO₂ per year for PNG, and just 4.3MtCO₂ per year for Australia.

However, a comparison of forest area loss for the period 1990-2005 indicates Australia’s forest area decreased by 519,000 ha between 1990 and 2005.⁷ In the same period and according to the same data set, PNG’s forest area decreased by 278,000 ha.

¹ PNG FIA notes that the Interim Report relies heavily on the convergence approach to emissions that underpins the Interim Report. It also notes that this approach is not universally endorsed by international climate change economists.

² *Climate Analysis Indicators Tool (CAIT) version 5.0.* (Washington, DC: World Resources Institute, 2008). Available at <http://cait.wri.org>.

³ Available at: http://earthtrends.wri.org/pdf_library/data_tables/cli3_2005.pdf.

⁴ Houghton, R.A. 2003. *Data Note Emissions (and Sinks) of Carbon from Land-Use Change.* (Estimates of national sources and sinks of carbon resulting from changes in land use, 1950 to 2000). Report to the World Resources Institute from the Woods Hole Research Center. Available at: <http://cait.wri.org/downloads/DNLUCF.pdf>.

⁵ Houghton, R. A. 2003a. Revised annual net flux of carbon to the atmosphere from changes in land use 1850–1990. *Tellus (2003), 55B, 378–390.*

⁶ Houghton (2003)

⁷ FAO (2005). *Global Forest Resources Assessment 2005. Progress towards sustainable forest management.* FAO Forestry Paper 147. UNECE/FAO, Rome. Data tables available at: http://www.fao.org/forestry/static/data/fra2005/global_tables/FRA_2005_Global_Tables_EN.xls

Inconsistency in the data and the inappropriateness of the comparison stems from the fact that the Australian LULUCF figure is based on annual rates of wood production, and the PNG figure is based on deforestation rate.⁸

Additionally, regrowth of forests as a source of carbon absorption is not accounted for in any of the above figures. One estimate of forest-related emissions (taking into account forest regrowth and sequestration of existing forest area) is just 36,000t, based on deforestation rates between 1975 and 2000 at a rate of 0.5 per cent of forest area per year (125,000 ha).⁹

Response: Data used by the Review on PNG's forestry-related emissions, and comparison between emissions from PNG and Australia is inconsistent and has a low degree of certainty. This data is used as the basis for the assertion that PNG has a high incentive to enter into a bilateral ETS arrangement with Australia.

Assumption 2: Rates of deforestation in Papua New Guinea are high

"PNG [has] ... large volumes of low-cost abatement opportunities, primarily through averting deforestation ..." (ETSDP, 68)

"Developing countries with high current per capita emissions due to deforestation including Indonesia and PNG" (IR, 33)

PNG FIA notes that deforestation and forest degradation is of concern. It also notes that the existing commercial forestry industry in Papua New Guinea is not a cause of deforestation and forest degradation in Papua New Guinea.

The above statements in the IR and ETSDP make the assumption that deforestation and forest degradation are significant.

This assumption is inconsistent with United Nations Food and Agriculture Organization (FAO) data. FAO reports that the rate of forest reduction in Papua New Guinea for the past decade was 0.5 per cent per annum.¹⁰ By way of comparison, (as stated above) Australia's forest area decreased by 519,000 ha between 1990 and 2005¹¹. In the same period and according to the same data set, PNG's forest area decreased by 278,000 ha. In absolute terms, Australia's loss of forest area due to land use change was 86 per cent higher than PNG's.

The problems associated with measuring deforestation in tropical forests have been well demonstrated by a UK academic Alan Grainger. From an examination of all published

⁸ Houghton (2003)

⁹ Tim Curtin, Economics Faculty, Australian National University, personal communication. Using emissions data (Emmanuelle Lamade and Jean-Pierre Bouillet, *Carbon storage and global change: the role of oil palm*, Dossier, OCL Vol.12 No.2, Mars-Avril, 2005) and deforestation and forest cover data (McAlpine, J and Quigley, J. 1998. *Forest Resources of Papua New Guinea - Summary statistics from the Forest Inventory Mapping (FIM) System*. Prepared by Coffey M P W P/L for AusAID and the PNG National Forest Service) it is estimated that even if as much as 0.5 per cent of total forest area in Papua New Guinea is converted to gardens (around 125,000 ha), the loss in carbon dioxide stored in the forests from such activities is just 36,000 tonnes of carbon dioxide. Curtin estimates that the remaining forests are still "fixing" 240 million tonnes of CO₂ per year.

¹⁰ FAO (2005).

¹¹ FAO (2005) *Ibid.*

data on the subject, he has concluded that “Deforestation may well have occurred at the global rates published in FRAs (FAO Forest Resource Assessments), but we cannot be certain about this given the errors involved.”¹² Grainger also notes that little, if anything, is known about rates of regrowth after forestry in tropical forests - which he believes is not measured properly.¹³

Response: Data used by the Review on rates of deforestation in PNG has a high degree of uncertainty. This data is used as the basis for the assertion that PNG has a high incentive to enter into a bilateral ETS arrangement with Australia.

Assumption 3: PNG is in a position to make reductions in deforestation and forestry-related emissions quickly

“The scope for large cuts in emissions in PNG through rapid reductions in deforestation ...” (IR, p. 43)

It should be noted that the PNG forest industry does is not a cause of deforestation. Claims by environmental groups and NGOs that the commercial forestry industry is a driver of deforestation¹⁴ ignore two significant points. First, the commercial forestry industry manages its forests according to environmental standards set by PNG forestry legislation and regulation; second, the three major sources of deforestation in PNG are fuelwood removals, conversion to agriculture and small sawmill operators.

The commercial forestry industry is a responsible manager of forests. PNG FIA members and Forest Industry Participants (FIPs) must for all harvesting operations must submit an Environmental Impact Statement or Environmental Plan, a Waste Management Plan, possess Environment Permits for water use and discharge, as well as all legal title and land acquisition permits. They must also adhere to the *PNG Logging Code of Practice*, and operate within sustainable yields for forestry concessions as defined by the PNG Forest Authority (PNGFA). Removals for fuelwood, conversions to agriculture and small sawmill operators are not required to comply with these regulations (see below).

There are three significant sources of deforestation and forest degradation in Papua New Guinea. They are:

- **Fuelwood removals.** Roundwood removals in PNG between 1990 and 2005 were 6,363,000m³ for fuelwood (76 per cent) and 2,001,000m³ for industrial roundwood (24 per cent).¹⁵ At the very least it may be inferred that three-quarters of PNG’s deforestation stems from use of forests as a fuel source for heating and cooking. This is particularly common in the Highlands regions, where population densities are high. This figure is backed up by PNG’s initial communication to the UNFCCC in 2000, which stated that, “National forests are disappearing through shifting agriculture at a rate of between 200,000-250,000 ha

¹² Alan Grainger, *Difficulties in tracking the long-term global trend in tropical forest area*, Proceedings of the National Academy of Sciences, January 15, 2008, vol. 105. no.2, page 822.

¹³ Ibid., 822

¹⁴ These claims have been aired in a long-running campaign mounted by Greenpeace against the PNG forest industry. Claims made by Greenpeace against forestry in PNG have effectively been discredited in: ITS Global (2006b). *Whatever it Takes: Greenpeace’s Anti-forestry Campaign in Papua New Guinea*. ITS Global, Melbourne. http://www.forestryanddevelopment.com/documents/pdf/fd-G_peaceReport-final.pdf.

¹⁵ FAO (2005)

annually, logging by some 60,000 ha and other forms of development (infrastructure, large scale commercial agriculture, settlements, etc).¹⁶

- **Conversion to agriculture.** 85 per cent of PNG's population relies on subsistence agriculture. PNG's population increased from 2.3 million in 1975 to 5.2 million in 2000 and has heavily impacted agricultural land use. A case study of Morobe province between 1975 and 2000 showed that as the population almost doubled, agricultural land use increased by 58 per cent. Most new agricultural land was taken from primary forest and the forest area decreased from 9.8 ha person⁻¹ in 1975 to 4.4 ha person⁻¹ in 2000.¹⁷
- **Small sawmill operators.** Under *Forestry Regulation 1998*¹⁸ (incorporated into the Forestry Act 2001), landowners may harvest up to 500 cubic metres of timber per year, per person, up to the value of K20,000 (approximately \$AUD8,000) from customary land.¹⁹ This type of harvesting does not require any form of environmental management. It is estimated that there are as many as 1000 mobile sawmills²⁰ operating in PNG, each with a capacity The complete lack of regulation for small sawmilling has been noted as being of "particular concern" by ACIAR.²¹ Roundwood consumption of portable sawmills is approximately 6,000 cubic metres per year.²² Assuming these sawmills are operating at half capacity, this translates to 1,500,000 cubic metres per year. This would represent more than one-sixth of PNG's roundwood removals operating with no environmental management.

It cannot be assumed that any of the above activities that contribute heavily to deforestation will be averted quickly or simply. All these activities are motivated by subsistence activity, are small-scale, and take place in remote areas where governance, education and enforcement are and will be difficult. They potentially represent a significant source of 'leakage' in any credit system proposed.

If the review recommends that these activities related to deforestation be curbed and/or regulated under the auspices of an ETS, the following must be considered:

- Energy supply for remote and densely populated regions. Household energy consumption in PNG highland areas is 100 per cent reliant upon fuelwood.²³

¹⁶ Papua New Guinea, *Initial National Communication to the UNFCCC*, November 2000, p 50.
<http://unfccc.int/resource/docs/natc/papnc1.pdf>

¹⁷ Tine Ningala, A.E. Harteminka, A.K. Bregt. "Land use change and population growth in the Morobe Province of Papua New Guinea between 1975 and 2000". *Journal of Environmental Management* 87 (2008) 117–124

¹⁸ Cf. Government of Papua New Guinea. *Forestry Regulation* (1998) http://www.paclii.org/cgi-bin/disp.pl/pg/legis/consol_act/fr1998230/fr1998230.html?query=forestry

¹⁹ PNG FIA notes that this constitutes a major and potential source of leakage under an ETS. How a disincentive would be created to prevent any person in PNG taking something that is effectively free or apply environmental management in such an undertaking, while simultaneously retaining PNG citizens' inalienable right to their land must be addressed.

²⁰ International Tropical Timber Organisation (2007). *Improving Utilisation Efficiency And Attracting Investment In The Wood Industries In The Pacific Region: Strategy And Policy Options For Papua New Guinea*. ITTO Pre-project PPD 58/02 Rev.2 (I) p. 6
www.spc.int/lrd/Forestry_Symposium/PNG%20Layout.pdf

²¹ Australian Centre for International Agricultural Research. "Papua New Guinea – Achievements". <http://www.aciar.gov.au/country/Papua+New+Guinea/achievements>

²² An estimate based on FAO (1992) *Reduction of wood waste by small-scale log production and conversion in tropical high forests*. Series title: Forest Harvesting Case Study U7890/E <http://www.fao.org/forestry/site/11874/en/page.jsp>. and ITTO (2007), *Ibid.* p. 71

²³ Leach G. and Gowen M. (1987). *Household Energy Handbook*, World Bank Technical Paper No. 67, World Bank, Washington D.C. Note that while this data may be considered out of date, the number of households connected to a mains electricity supply in rural areas of PNG is still low. Cf. fn 21 below.

Annual per capita household energy consumption in these areas is roughly 5.6 gigajoules.²⁴ Only 12 per cent of household have access to electricity.²⁵

- Food security. As stated above, 85 per cent of PNG's population relies on subsistence agriculture. Preventing the conversion of forest land to agricultural land will seriously impede the nation's food requirements.
- Legal aspects of small sawmill operations. The ability of small operators to secure small amounts of timber for income purposes is part of current forestry legislation. Regulating this type of activity will be difficult, if not impossible.

Response: The Review assumes that deforestation in Papua New Guinea has simple causes, not taking into account the fact that 76 per cent of forest loss in PNG (and therefore forestry related emissions) is caused by a complex set of factors. These factors will constitute a significant source of leakage under an ETS unless considered properly.

Assumption 4: PNG will be in a position to sell emissions permits to Australia

"The engagement already underway with both PNG and Indonesia towards climate partnerships should continue with a view to building linked markets. Earlier progress is more likely with PNG." (ETSDP 69)

"Developing countries with high current per capita emissions due to deforestation (including Indonesia and PNG) could be expected to reduce their emissions quickly and be financially rewarded for doing so by being able to sell their excess credits" (IR 33)

The above statements rely on three key assumptions:

- I. avoided deforestation is the only way for PNG to generate credits;
- II. a bilateral or multilateral arrangement for emissions trading will recognise all forestry related credits;
- III. There will be minimal risk associated with forest-related credits.

These assumptions are responded to below.

I. Generating Credits from sustainable forestry and harvested wood products

As stated above, the commercial forestry sector is a responsible manager of forests.

In its submission to the (former Australian Government's) Global Initiative on Forests and Climate (GIFC),²⁶ PNG FIA argued that an increase in carbon abatement through forest management is a highly effective way of reducing forestry-related emissions.²⁷

The atmosphere cannot distinguish between a tonne of CO₂ saved from avoided deforestation and a tonne of CO₂ saved by carbon absorption in forests over a given

²⁴ Ibid.

²⁵ Asian Development Bank (June 2003). Papua New Guinea - A Private Sector Assessment: The Realities of Crisis. p. 57 <http://www.adb.org/PrivateSector/Development/documents/PNG-PSA.pdf>

²⁶ Now called the Papua New Guinea – Australia Forest Carbon Partnership.

²⁷ PNG FIA, *Global Initiative on Forests and Climate: Proposals to the Australian Government by the Papua New Guinea Forest Industries Association*, at http://www.fiapng.com/PDF_files/PNGFIA%20GIFC_proposal_Final.pdf

baseline via improved forest management. PNG FIA believes that equal weight should be placed on forest carbon absorption as on avoided deforestation, and that this is central to the participation of PNG in an Australian Emissions Trading System (AETS).

Matters relevant to including forest carbon absorption in an AETS are:

- Whether emissions credits could be generated from plantation forestry and regrowth on degraded land, or whether permits could be generated only from native forestry;
- Whether Australia will apply UNFCCC/Kyoto Protocol rules for LULUCF in an AETS (see Annex I), or whether it is prepared to develop and apply a set of sinks rules that will maximise incentives for private sector investment in sustainably developing Papua New Guinea's forestry endowment.

PNG FIA also emphasises the potential for improvements in sustainable forest management (SFM) to dramatically improve carbon absorption in PNG's forests. For example, while there is a "reforestation levy" imposed by the PNG Government on forestry companies, few reforestation activities are undertaken. An incentive for the private sector, i.e. forestry companies themselves, to undertake this activity would improve sustainable forest management and maximise carbon absorption. PNG FIA notes in this context that the commercial forestry industry is moving ahead quickly to make other changes to improve sustainable forest management.²⁸

Papua New Guinea is in the process of deploying Australia's National Carbon Accounting System (NCAS). PNG FIA endorses this development. It notes in this context that with satellite mapping being a key component of the National Carbon Accounting System, there seems no in principle reason why this system should not be as capable of measuring carbon absorption as avoided deforestation.

In addition to the sustainable management of forests, harvested wood products (HWP) may also be considered as a source of carbon abatement.

The current 'default position' regarding harvested wood products (HWP) in national greenhouse inventories under the UNFCCC is that carbon is emitted at the point of harvest. This position was established in the IPCC 1996 Guidelines for National Greenhouse Gas Inventories.²⁹

Harvested wood products store carbon at up to 1.28t CO₂e per tonne of wood.³⁰ This storage is long term and exceeds carbon emissions from production.

The IPCC guidelines were revised in 2006 and are now under consideration by the UNFCCC Subsidiary Body for Scientific and Technical Advice (SBSTA). The revised guidelines give three different methodologies for accounting for the reporting of harvested wood products in national greenhouse inventories. The first option is to report no change in carbon stocks; the second uses the IPCC accounting method; the third uses country specific methods.

²⁸ Cf. "Rimbunan Hijau ventures into development, forest care" in *The National*, 17 March 2008. <http://www.thenational.com.pg/031708/biz1.htm>. Rimbunan Hijau is PNG's largest forestry operator and a PNG FIA member.

²⁹ Cf. IPCC. *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories*. Vol. Intergovernmental Panel on Climate Change, Bracknell, UK. 1997

³⁰ Forest and Wood Products Australia (2008). *Impact of Carbon Trading on Wood Products*. Melbourne, Australia. p. ii. http://www.timber.org.au/resources/Impact%20of%20carbon%20trading%20on%20wood%20products%20-%20Jan%202008_0.pdf

Response: the Garnaut Review should not only consider avoided deforestation as a source of cuts in forestry related emissions. It must equally consider: the application of forest management and silviculture activities as a source of emission offsets; the use of harvested wood products as a source of credit generation.

II. Credits under bilateral and multilateral arrangements

The ETSDP and IT note that negotiations on a successor instrument to the Kyoto Protocol are underway and the inclusion or exclusion of credits from land-use, land-use change and forestry or harvested wood products (HWP)³¹ under the UNFCCC (see Annex 1) may be inconsistent with inclusions or exclusions under bilateral negotiations.

Australia could conceivably take the lead on securing LULUCF and HWP rules in negotiations on a successor instrument to the Kyoto Protocol that would allow credits from carbon absorption and HWP to be included in such an instrument.³² Doing so would likely result in greater benefits flowing to developing countries than the current focus solely on reducing emissions from deforestation.

The IR and ETSDP state that Australia would benefit from linking its emissions trading market with those of other countries (ETSDP 16). Doing so requires the same rules and institutional modalities across countries. The European Union (EU) ETS currently excludes forest carbon sinks credits that are recognised under the UNFCCC Clean Development Mechanism (CDM), nor does it recognise credit for reduced emissions from avoided deforestation.

The ETSDP states that “EU views on excluding forestry and agriculture from ETS may be a problem in the early stages” (35). If PNG is linked to the AETS based on forest-generated credits, but the AETS is in turn excluded from the EU ETS (which drives the current market for CDM credits), then PNG would rely solely upon the Australian credit market, perpetuating PNG’s historical level of trade dependence upon Australia.

Response: the Review must consider the optimal outcome for bilateral trading partners, particularly developing countries, when making recommendations on bilateral or multilateral agreements.

III. Risks associated with credit generation

“To be fully engaged, [PNG] would need to accept a national-level cap, as project-based mechanisms may not succeed in delivering aggregate reductions in land-based emissions.” (ETSDP 68)

The PNG FIA is not convinced by the above requirement. This would be contrary to the strongly articulated positions by developing countries in multilateral negotiations under the UNFCCC in opposing binding targets and timetables. This could have significant implications for economic growth in PNG. Second, such a constraint would not be necessary if emissions from avoided deforestation and improved forestry management

³² Australia achieved landclearing provisions in the Kyoto Protocol that are central to Australia being on track to achieve its Kyoto Protocol first commitment period target. There is no reason why it could not conduct similar diplomacy on carbon absorption in a successor instrument should it believe doing so would be in its national interests.

over and above a baseline could be generated by improving sustainable forest management and resultant emissions credits sold to Australia.

Response: The Review should consider economic implications prior to recommending subjecting developing countries to an emissions target.

“Limits on international purchases of permits and offsets may help to ensure credible domestic action and to contain the risks associated with linking to international markets.” (ETSDP 35)

For permits generated in Papua New Guinea to be sold into an AETS, the risk adjusted prices of such permits would need to be competitive with permits available from recognised abatement actions in Australia and other permits that might be allowed to be used in the AETS to offset emissions liabilities.

The higher the demand for permits in Australia, the more competitive permits from Papua New Guinea are likely to be in an AETS. But as the size of a cap that might apply in Australia to underpin an AETS is not yet known, and as the rules and institutional arrangements have not been decided, it is not possible to estimate what the risk adjusted prices of permits from Papua New Guinea might be.

As stated above, the market for PNG-generated forest credits may be limited to the Australian market. A cap placed on an already limited market may end up providing no incentive or a very limited incentive for PNG to undertake activities that would improve forestry management or avoid deforestation.

Response: The Review should clearly articulate potential risks to any market-based incentives to reduce forestry related emissions for developing countries.

“The independent authority could certify individual markets as being of a suitable standard for linking. Australia should seek to strengthen international monitoring and enforcement, and to harmonise standards across markets.” (ETSDP 36)

The PNG FIA endorses this statement. Monitoring and reporting systems in Papua New Guinea would need to be compatible with Australian systems. The use of the National Carbon Accounting System by Papua New Guinea should enable that to be done, subject to satisfaction that such credits constitute real and verifiable carbon abatement.

However, the PNG FIA emphasises that the monitoring and standards must be verified on both sides of the transaction. It is not made clear in either the IR or ETSDP who would be entitled to carbon credits sold by PNG: landowners, forestry companies, the Government or companies established in Papua New Guinea to sell such credits.

International purchases, particularly with developing countries, must be auditable, verifiable and transparent throughout the entire supply chain, with criteria and indicators that clearly demonstrate any financial benefits and development outcomes are being directed towards resource owners.

Response: The Review should recommend any international linkages with the AETS for forestry related credits be transparent throughout the supply chain, and that criteria and indicators for financial benefits and development outcomes be an essential component within these linkages.

“Realistically, the market engagement would be at the government-to-government level because neither Indonesia nor PNG is likely to have a domestic emissions market. Their policies are more likely to take the form of regulation or direct financial incentives.” (ETSDP 69)

PNG FIA notes that its participation will be central to prospects for enabling improved sustainable forest management to generate emissions credits for possible sale into an AETS. The industry will need to secure a reasonable share of the revenue from credits flowing from investments by the commercial forestry sector required to generate such credits, or to secure compensation for commercial forestry companies suffering losses from Government-imposed constraints on existing property rights.³³

PNG FIA understands that one such company has already been established to secure the income from selling permits into an AETS under a monopsony arrangement with the PNG Government. The content of its agreement with the State remains undisclosed and unclear to the other stakeholders and the broader public. This highlights the need for transparency, as highlighted in the preceding response.

Response: The Review should recommend any international linkages with the AETS for forestry related credits be transparent throughout the supply chain, that a transparent governance model is adopted, and that the market is fully competitive.

Assumption 5: Sales of credits will deliver sustainable growth outcomes to rural communities

“Papua New Guinea will benefit from these initiatives ... In a global or regional ETS, these forest resources will provide significant opportunities for wealth creating trade in offsets.” (ETSDP 28)

“Such an agreement, if built around a framework for utilising large revenue flows for the sale of emissions permits for development purposes, including cash and development opportunities for village communities currently enjoying cash and services from forestry operations.” (IR 42)

PNG FIA notes that any wealth generation or development outcomes from participation in an ETS cannot be determined on an *a priori* or even an *a posteriori* basis. The above statement assumes that any financial benefits from incentives to reduce forest-related emissions will equal or outstrip financial benefits and development outcomes provided by the forestry industry.

Commercial forestry is very important to Papua New Guinea - both economically and in terms of providing social welfare services and infrastructure in remote areas that Government's have proved unwilling or incapable of doing. Anything that undermines the economics of the profitability of the commercial forestry sector would impose economic and social costs on Papua New Guinea.

³³ PNG FIA notes in this context that there are worrisome precedents for the loss of established property rights that forestry companies had assumed they had as a consequence of international climate change commitments. As New Zealand underestimated the growth of its emissions, and how has to buy emissions permits internationally rather than as it had expected sell forest sinks credits, its forestry companies have been prevented from cutting forests as doing so would make it more difficult for New Zealand to reach its Kyoto Protocol target.

The Review should consider the following key facts regarding the PNG forestry industry:

- The sector formally employs approximately 9,000 staff, which represents 5 to 7 per cent of all formal employment across PNG³⁴;
- The sector contributes more than 5 per cent to GDP³⁵;
- Indirect tax receipts from the industry are estimated to equate to 16 per cent of all tax receipts (IRT);³⁶
- Log export taxes account for approximately 5 per cent of all Government revenue (IRT);
- Forestry companies pay significant royalties to landowners for operations for example, between 1997 and 2003, more than K10 million was paid to landholders at the Wawoi Guavi concession);
- Forestry companies also pay a per cubic metre premium on harvesting to landholders;
- Forestry companies are also required to develop infrastructure - roads, educational and health facilities, law enforcement buildings and airstrips - as part of their project agreements.

The industry has the potential to make an even greater contribution to sustainable development. The International Tropical Timber Organisation (ITTO) has noted that Papua New Guinea is not using the maximum annual sustainable "cut" from its forestry endowment. This was estimated to be costing Papua New Guinea \$US58 million in lost exports and \$US20 million in lost government revenue in 2004.³⁷

PNG FIA is however concerned that the implication of the quote in the above paragraph (IR 42) appears to indicate that the sale of carbon credits would displace commercial forestry.

It is unrealistic to assume, as the Interim Report seems to have done, that the benefits for the economy and people in remote areas of Papua New Guinea from commercial forestry (jobs, incomes, exports, government revenue, health and education services and transport infrastructure) could be replicated by constraining the sector and using income from the sale of permits from avoided deforestation for development purposes.

There is nothing in Papua New Guinea's economic history to justify such an assumption. The probability is that poor people in remote areas whose only way of interacting with the market economy is via jobs in the commercial forestry sector would lose not only their jobs and incomes, but also the social welfare services and infrastructure generated by commercial forestry operations in those areas. Governments would not only not generate alternative jobs, but would not replace the social welfare and transport infrastructure provided by commercial forestry in remote areas. Rather than the macroeconomic win/win envisaged by the Interim Report, for the poor in remote areas it would more likely be a microeconomic lose/lose: no jobs and no social welfare and infrastructure services.

If National or Provincial Governments were to receive windfall gains from appropriating the funds from the sale of permits in return for a reduction in deforestation via less commercial forestry, there is no basis for assuming that they would be spent on the health, education and transport services currently provided by commercial forestry companies.

³⁴ FAO (2005)

³⁵ FAO (2005)

³⁶ Cf. PNG FIA. *Export Statistics 1997–2002*. http://www.fiapng.com/export_stats_1997_2002.pdf

³⁷ International Tropical Timber Organization (2004). *Annual Review and Assessment of the World Timber Situation*, 2004. p. 7.

Investments by National and Provincial governments on social welfare and infrastructure facilities in remote areas are substantially less than investments by commercial forestry companies in remote areas.³⁸

There is an unfortunate history in Papua New Guinea of the failure of the bureaucracy to efficiently allocate resources, as demonstrated by recent reports of the Public Accounts Committee. There can be no confidence that windfall financial gains from the sale of carbon permits to Australia would result in genuine benefits to landowners and the rural poor.

Notwithstanding some recent “slippage”, Papua New Guinea has been progressively improving the policy and institutional arrangements governing the commercial forestry industry. There is a non trivial risk however that the prospect of large amounts of “carbon cargo”, from participation in an AETS and via the REDD process under UNFCCC negotiations, will distract attention from higher priority tasks: improving sustainable forest management; implementing better silvicultural investment arrangements; upgrading run down forestry-related skills; and improving policy and institutional settings in the sector.

Infrastructure and forest management provided by the industry that generates social, economic and environmental benefits are not a product of market intervention, but of an existing market that provides incentives for private sector investment, i.e. forestry.

To encourage an end to these incentives, i.e. to encourage a functioning market to fail, and replace it with a government-to-government arrange

Response: The Review must consider any potential impact of the displacement of the forestry industry on development objectives in Papua New Guinea at social and economic levels.

³⁸ ITS Global (2006).