



Submission by the
Forest Industries Association of Tasmania
to
Department of Primary
Industries and Water
On
Draft Climate Change Strategy
for Tasmania

February 2007





Introduction

The Forest Industries Association of Tasmania welcomes the opportunity to present its views to the State Government on respect to its Draft Climate Change Strategy for Tasmania.

This review occurs during a period of considerable public disquiet over the whole question of greenhouse effect and climate change and much of the public commentary is based on incorrect assumptions and poorly reported data.

FIAT believe there exists a potential leadership role for the State Government as an integral element of a climate change strategy to provide an educative role that will ensure that the Tasmanian community are well informed on this issue and that public understanding will in turn lead to a cooperative approach to identifying and implementing remedial steps. We are pleased that the Government has adopted a leadership position in this discussion and that the Draft Policy enshrines that role.

FIAT is concerned to ensure that decisions are based on fact, and is concerned that much of the disquiet seems to be based on vague and unsubstantiated argument. In particular, FIAT recognises that much of the present commentary is centred on certain individuals and groups who have consistently sought to undermine Tasmania's forest industry. We urge the Government in undertaking this review to consider established facts and not be deflected by the vague unfounded innuendo of those determined to pursue biased and blinkered self interest policy positions or by "motherhood" statements designed to create political pressure.

FIAT notes the position adopted by the Tasmanian Government that climate change is a reality and is occurring now : -

"Climate change is happening now and is one of the greatest challenges facing the international community. Even with significant reductions in global greenhouse gas emissions, there will still be changes to the global climate and to our climate here in Tasmania. While there is still debate about the likely rate of change there is no doubt that significant change is occurring."

Extract from Draft Climate Change Strategy for Tasmania Pg 5



FIAT does not take any position in respect to this view but we do observe that this is not a universally held opinion within scientific communities. In this context we urge caution in responding to climate change but recognise that a sensible risk management approach is prudent.

FIAT unhesitatingly endorse the adoption of risk management strategies to ameliorate any potential adverse impacts from changes in climate regardless of the cause of that change and to ensure full advantage is taken by the State to capitalise on opportunities presented by those changes. We note in this context that this may require a fundamental review of a number of existing policy areas to achieve a best practice outcome and a challenging of a number of “norms” held within the community. If the Tasmanian community as a whole wish to get serious about climate change it may well need to be at the expense of a number of the “nice to have” policies that may act to minimise the effectiveness of combating climate change, its impacts or the potential for the State to capitalise on opportunities those changes could present.

We note in this context again the comment in the Draft Strategy that climate change “...is one of the greatest challenges facing the international community” and comment that the severity of the risk by necessity may require decisions to be taken that will be difficult, unpalatable and politically dangerous.

FIAT believe that the forest industry already plays a substantial role in the minimisation (reduction) of greenhouse gas (CO₂) and therefore climate change impacts through the sequestration and storage of carbon and is in fact Australia’s only greenhouse positive industry.

This contribution is largely unrecognised by the community at large and this draft strategy provides an opportunity for the industry and Government to jointly ensure a better understanding of these issues and through that better understanding may come an improved acceptance of the legitimate and essential role of sustainable forestry in Tasmania.



ABOUT FIAT

The Forest Industries Association of Tasmania (FIAT) is an industry association formed in 1983 to represent the interests of processors of Tasmanian forest products. FIAT was formed out of a predecessor Association, the Tasmanian Timber Association (TTA). FIAT and TTA collectively have provided representational services to the Tasmanian timber industry for in excess of 60 years. Our members' activities are diverse and include:

- the production of veneers, hardwood and softwood timber, pulp and paper
- woodchip production and export
- plantation and native forest management.

FIAT's 18 member businesses include all of the State's larger processors of forest products. They utilise a significant proportion of the crown sawlog output as well as all of the veneer produced in the State. FIAT Members' activities account for more than 75% of the gross value of production in the forest and wood products industry in Tasmania.

Included within the FIAT membership are the State's largest industrial forestry Companies that account for the vast bulk of plantation development and management enterprises on private land in Tasmania and the largest native forest management enterprises in the private sector in this State and as a consequence we have a significant interest in the creation and application of a pragmatic climate change strategy.

FIAT's role is described in our Annual Report as follows: -

“Role

In addressing its first objective, FIAT's role is characterised by helping to create the right external environment within which industry has to operate. This has two main dimensions

- the policy environment and
- the public image of the industry in the eyes of the community.



The policy environment centres on government legislation and regulations which determine the limits to what industry can do. The policy environment must be tackled at both the Federal and State Level.

Industry's public image rests on public opinion and the various factors which influence that opinion. This is important because public opinion has a strong bearing on the development of Government policy.

In addressing its second objective, FIAT's role is to facilitate discussion and joint action among its membership, and to project membership position in wider forums as appropriate.

FIAT have a keen interest in the climate change debate and believe the forest industry has a key role to play in mitigating any adverse effects of climate change and reducing the speed of change through the development of carbon sinks. We also believe that a number of other adverse issues associated with climate change can be assisted through the operations of the forest industry.



Tasmania's Greenhouse Gas Emissions

The Draft Strategy identifies at a number of places that Tasmania is a relatively low emitter of greenhouse gases (GHG) compared to other parts of Australia (10.7 Mt CO₂e and 550.08 Mt CO₂e respectively (NCAS 2004)) and indeed much of the rest of the world. FIAT concede that this current state of play is not a reason for complacency and that Tasmania, in concert with other States, must act to reduce emissions of GHG to the greatest extent possible. It must however be clearly understood that whilst we must undertake to do our share in reducing the cause and impacts of climate change, we, as a State, will not be in a position to make a significant impact on reducing the likelihood or severity of climate change.

To obtain a realistic overview of the Tasmanian contribution to Australia's total annual emissions of GHG the Information Paper produced by the Australian Greenhouse Office and DPIWE for 2002 provides the following emissions analysis: -

PER CAPITA EMISSIONS

Tasmania has substantially lower per capita emissions than the other states. At 15.2 tonnes carbon dioxide equivalent (CO₂e), Tasmania is well below the national per capita average of 27.6 tonnes CO₂e.

STATE	TOTAL EMISSIONS (Mt CO ₂ e)	POPULATION	PER CAPITA EMISSIONS ¹ (tonnes CO ₂ e)
New South Wales	151.5	6,634,100	22.8
Queensland	145.1	3,710,972	39.1
Victoria	117.0	4,857,228	24.1
Western Australia	70.4	1,924,553	36.6
South Australia	30.9	1,518,696	20.3
Northern Territory	17.7	198,665	89.1 ²
Tasmania	7.2	472,612	15.2
Australian Capital Territory	1.3	321,512	³
National	541.8	19,640,979	27.6

Note:

1 Consistent with the emission inventory, per capita analysis uses 2001/2002 population figures and includes LULUCF.

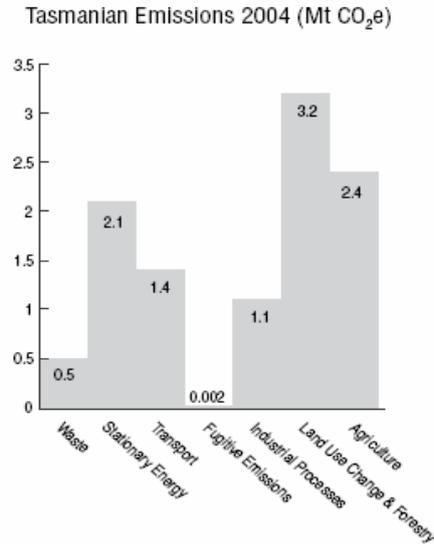
2. This figure is likely to reduce as the process for estimating emissions in the Northern Territory is improved.

3. It is not possible to calculate this figure as only a partial inventory is available.

Extract from Information Paper on 2002 Emissions and produced by the AGO.



The graph depicted on page 12 of the draft strategy shows that the largest emitter of GHG in Tasmania is “Land Use Change and Forestry”:-



This data without extrapolation would lead the uneducated reader to conclude that forestry within Tasmania is a major contributor to GHG emissions.

It is however very clear on deeper analysis that the GHG emissions under this measure are from changes in land use to non-forestry use (5118.9Gg [AGO State and Territory Greenhouse Gas Inventories 2004]) whereas forestry operations, harvesting and regeneration and/or planting operations and the afforestation and reforestation activities of the forest industry actually absorb GHG (-1928.9Gg – [ibid]). Whilst we understand the graph in the draft strategy represents a netting of these two elements it can and does lead to mischievous commentary in the public arena for the political ends of some groups.

FIAT are concerned that current reporting on emissions within Tasmania is highly misleading in that it brackets emissions from land use change with those of forestry. We acknowledge that this is the consistent method of reporting adopted by the Australian Greenhouse Office and international agencies however we say that in order to avoid public confusion and politically inspired misuse of reported data it is incumbent on the State Government to ensure that a more



accurate assessment of the recorded data is made available to the public. This deliberate misreporting for political gain has already commenced as evidence by the following extract from a letter to the editor of the Mercury Newspaper by Vica Bayley from the Wilderness Society on 8 December 2006: -

“Flaws in forestry tale

CLAIRE Bennett (Letters, November 30) spins a well rehearsed tale about the role of logging and its contribution to climate change.

Forests do indeed gather atmospheric carbon and store it in living tissue and soil matter. That is why our forests, when left intact, are such globally important carbon sinks that need to be preserved to combat climate change.

Logging these forests on ever-shortening rotations means growing trees never have the opportunity to replace the carbon lost during their logging and burning.

Every April, Forestry Tasmania creates a visual example of just how massive this initial release of carbon from our forests and soil is. The State Government’s draft Climate Change Strategy reflects this. Logging and land-clearing is Tasmania’s biggest climate change contributor.

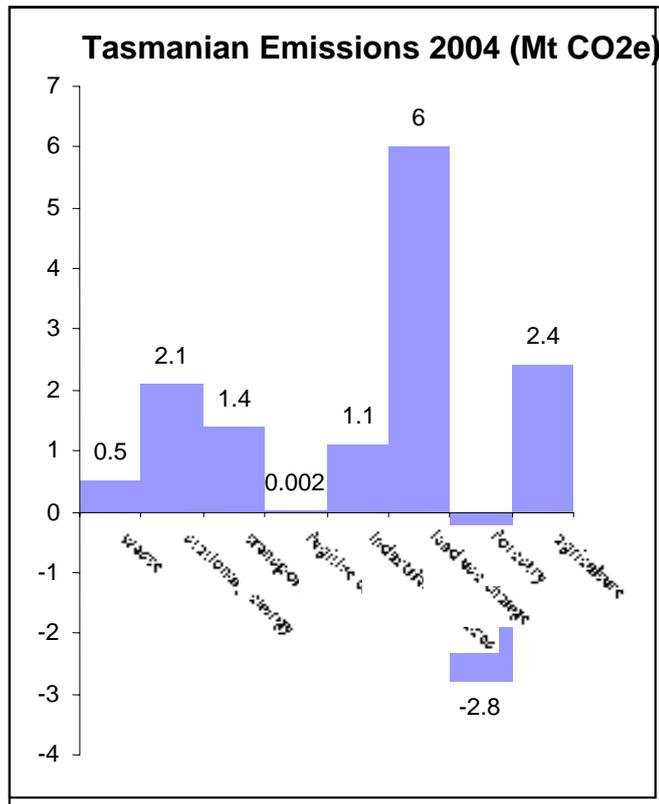
Extract from the Mercury Newspaper Friday 8 December 2006

This extract from Mr Bayley’s letter demonstrates the need for more accurate reporting to fully extrapolate the benefits of forestry in the longer term strategic approach to combating climate change and the impacts of that change.

FIAT believe there is a public information role for the Tasmanian Government in ensuring that the benefits of forestry operations as carbon sinks through the sequestration of carbon are clearly articulated to the Tasmanian public. Failing this data being available without the offsetting of land use change could severely limit the public grasping the import of utilising afforestation strategies to combat GHG and therefore climate change. This does not mean the collation of data for reporting as part of the National Carbon Inventory cannot be continued in accordance with the established framework, but there is absolutely no reason why that data cannot be disaggregated for use within the State in reporting on the actual emitters of GHG as an information mechanism for Tasmanians.



The following graph created by FIAT disaggregates the data in such a manner to graphically and dramatically demonstrate the actual effects of forestry in the carbon emissions measurement for Tasmania.



It is this type of reporting that will enable the Government and others to properly inform the Tasmanian public about how various industry sectors are contributing to the emission of carbon and where possible solutions can be identified.





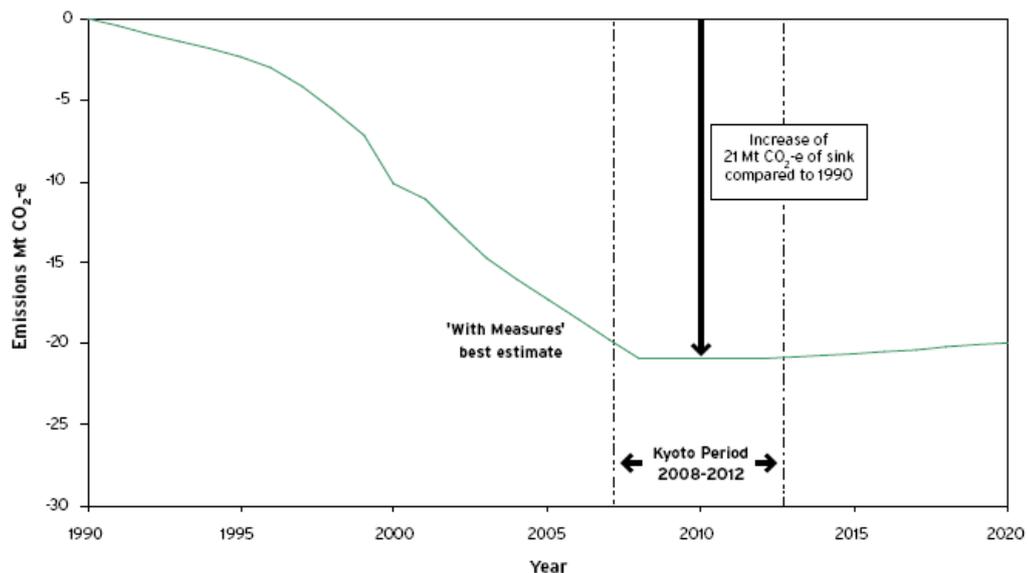
Forestry Is Part of the Solution not the Problem

It is clear that Tasmania's forest industry is a net sequester of carbon and in that context can play a significant role in the overall reduction in GHG emissions within the State. Tasmania is by far the most forested of the Australian States with forest area constituting approximately 50% of the States land mass and this forested area is actually increasing.

The Australian Greenhouse Office in their "Forestry Sector Greenhouse Gas Emissions Projections 2006" estimate that after allowing for the impacts of fire and climate effects such as drought, forestry activities in Australia will sequester (remove) 21 MtCO₂e/year for the period 2008-2012 and is the only sector to demonstrate a capacity to actually reduce carbon emissions.

The actual removals of carbon measured in accordance with the reporting requirements of the Kyoto Protocol from 1990 are depicted in the following graph derived from the AGO Kyoto Tracking Report (2006) :-

Figure 10: Forestry emissions projections





This demonstrates a continuing and growing capacity of forestry activity to remove carbon from the atmosphere and to be part of the solution to climate change and not, as many would argue, a part of the problem.

The actual Greenhouse emissions by sector are reported by the Australian Greenhouse Office in Tracking the Kyoto Target – Australia’s greenhouse emissions Trends 1990 to 2008-2012 and 2020 as follows: -

Table 1: Greenhouse emissions: 1990, and 2008-2012 ^{abc}

	1990	2010 'With Measures' best estimate	
	Mt CO ₂ -e	Mt CO ₂ -e	% of 1990
Energy	287	430	150
<i>Stationary</i>	196	306	156
<i>Transport</i>	62	86	140
<i>Fugitive</i>	30	38	127
Industrial Processes	25	38	150
Agriculture	91	96	105
Waste	19	16	81
Land Use, Land Use Change and Forestry	129	24	18
<i>Land Use Change</i>	129	45	35
<i>Forestry^d</i>	0	-21	ne
TOTAL^e	552	603	109

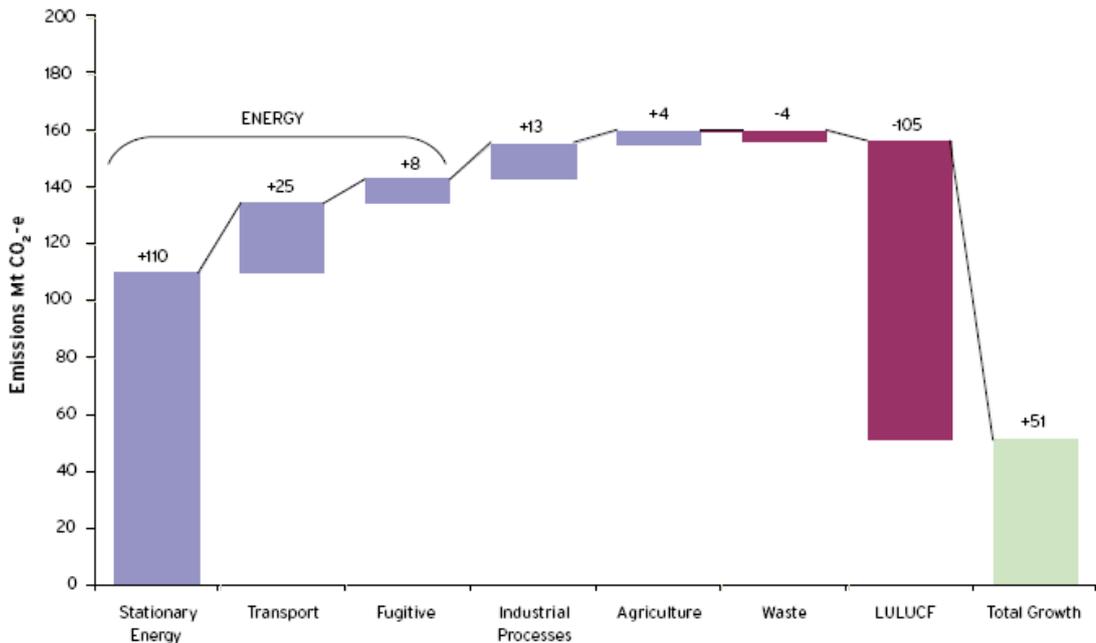
Notes:

- a) These projections are made under Kyoto Protocol accounting rules, which differ to those of the United Nations Framework Convention on Climate Change, notably in their treatment of forestry sinks.
 - b) Energy, industrial processes, agriculture and waste sector projections in Table 1 and Figure 1 were prepared by a range of modellers, and land use change and forestry estimates were prepared by the AGO's National Carbon Accounting System (NCAS).
 - c) The 2010 emissions projection is equivalent to the 2008-2012 average.
 - d) Forestry sinks estimates relate to sequestration in Kyoto-compliant plantations.
 - e) Columns may not sum due to rounding.
- ne = not estimated



The change in emissions expected to be achieved through emissions abatement measures is demonstrated by the following graphical depiction: -

Figure 2: Change in emissions by sector: 1990 to 2008-12



It is clear from this nationally collated data that other than finding mechanisms to reduce the emissions by other sectors beyond those estimated from the emissions abatement measures, the best mechanism available to Governments to reduce the climate change effect of increased carbon loads in the atmosphere, is to facilitate the additional sequestration of carbon through the creation of new forests as carbon sinks.

There is clear evidence that the growing of trees (afforestation or reforestation) can assist in the removal of carbon from the atmosphere and can be used to reduce the overall emissions from other sectors. A recent report published jointly by the Forest and Wood Products Research and Development Corporation (FWPRDC) and the Cooperative Research Centre for Greenhouse Accounting (CRC - GA) titled Forests, Wood and Australia's Carbon Balance indicates the extent to which plantations and other commercial forests along with wood products produced from those forests, contribute to Australia's carbon balance.



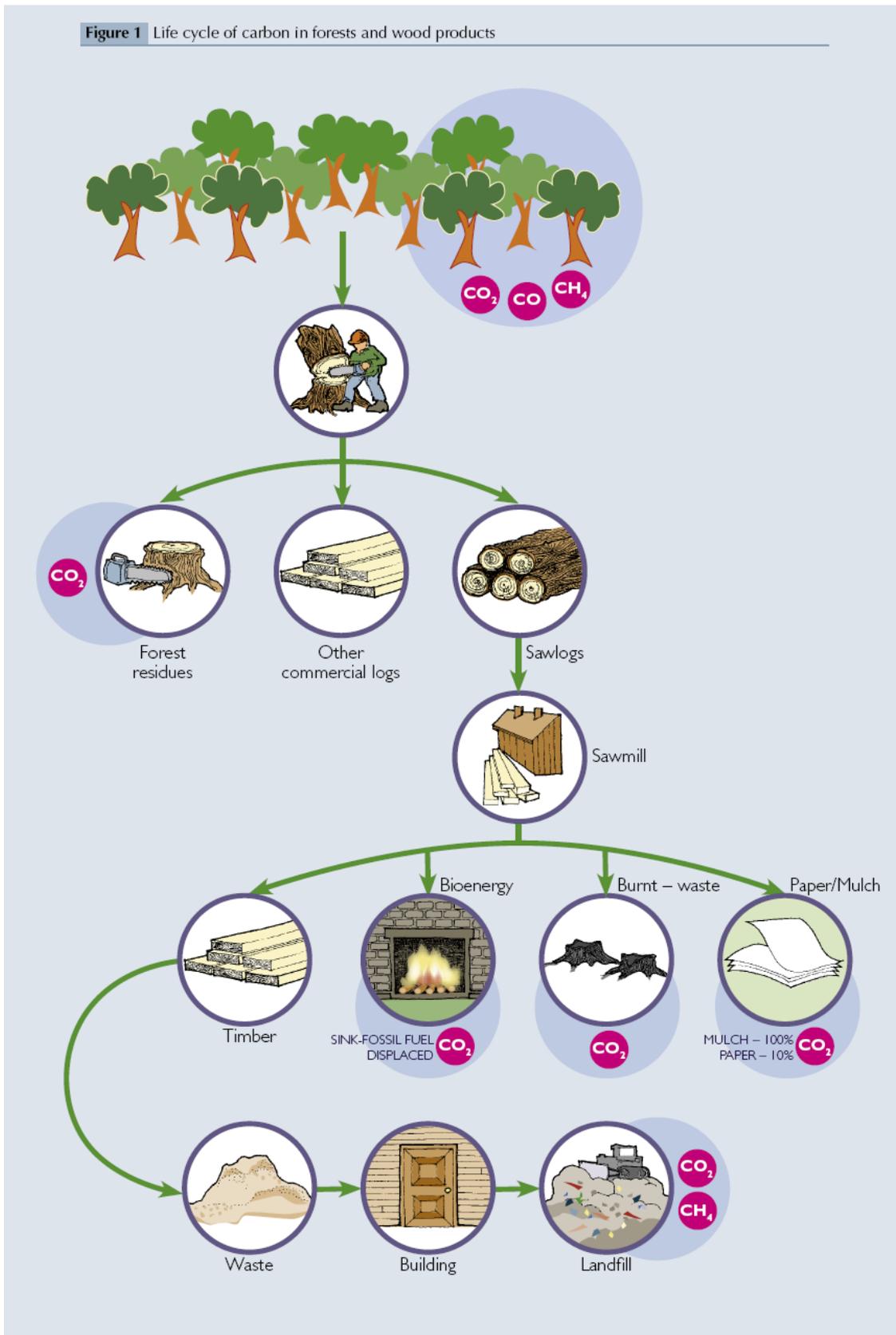
The report produces the following findings :-

- ***Forests in Australia store an estimated 10.5 billion tonnes of carbon (excluding soil carbon). The carbon store has been built through the forest plants having removed almost 38.5 billion tonnes of carbon dioxide from the atmosphere, about 70 times Australia's annual net greenhouse gas emissions.***
- ***Australian plantations and commercial forests removed a net 43.7 million tonnes of carbon dioxide from the atmosphere in 2004.***
 - ***The accumulated storage in Australia's forest plantations and wood products is about 323 million tonnes of carbon, of which the wood products store more than 230 million tonnes of carbon.***
 - ***Wood products typically require less energy to make than alternative materials. Because energy rating schemes and environmental assessments are typically not based on full-life-cycle assessments, the comparative environmental advantages of sustainably harvested wood are not fully recognised.***
 - ***The use of sustainably harvested forest biomass to generate renewable energy permanently eliminates atmospheric emissions that would otherwise have resulted from the use of fossil fuels.***
- ***There are ways to recognise better the greenhouse credentials of forests and wood products. These include burning more sustainably harvested wood and waste for energy, extending emissions trading schemes to recognise carbon stored in wood, and making full-life-cycle assessments of building materials.***
- ***By removing carbon dioxide from the atmosphere, forests, forestry, and the use of wood products are helping mitigate climate change. They can help much more.***

The following graphical representation summarises the life cycle of carbon in forests and wood products and demonstrates the interaction between growing, harvesting, transport, processing and end uses of the timber that is derived from the growing and harvest cycle. The illustration demonstrates that when a forest is harvested there is not a massive release of carbon into the atmosphere as the carbon remains stored in the wood and wood products until such time as they are broken down by decomposition or burnt.



Figure 1 Life cycle of carbon in forests and wood products





This storage of carbon, often for hundreds of years actually creates an opportunity to increase the carbon stored beyond the current standing carbon stored in our forests.

Tasmania's State of the Forest Report 1996 to 2001 at page 21 clearly records a net growth in the area of total forest in Tasmania of 10,700 hectares or 0.3%. Much of this growth in forested area is in the establishment of plantations on areas previously cleared for agriculture and therefore represents a significant additional sequestration capacity for at least the duration of the current rotation of those forests and potentially into the future through replanting for subsequent rotations.

The clear policy advantages of utilising forestry as a “strategy” to reduce GHG emissions and therefore reduce or ameliorate climate change is restricted by a number of confounding Government policy settings that restrict the industry's capacity to contribute to its full potential in this amelioration process. Much of this confounding policy is designed, almost exclusively, to placate a vocal minority that seek to impose their political opposition to forestry regardless of the facts of the debate or of the science.

If Tasmania is serious about combating climate change then it must be prepared to consider the hard and potentially unpalatable decisions to further that objective, provided those decisions are based on good science directed at the optimal outcome for the State. This will require considerable leadership and courage from the Government and the implementation of a clear communications strategy with the Tasmanian community to facilitate an acceptance of the foundation for such strategic decision making. One example may be a re-examination of the policy of locking up vast tracks of old growth eucalypt forests where those forests are progressively “leaking carbon” through decay compared to the obvious benefits in harvesting those forests with the on-going storage of their embodied carbon in the products produced from those trees and regenerating healthy vigorous regrowth forests that will actively sequester carbon from the atmosphere.



We readily acknowledge the difficulties this example may present to a Government, however if climate change presents as the pre-eminent environmental threat to Tasmania and beyond, it may be that these are the type of issues that may need to be grasped to provide any meaningful amelioration.

Another example could be the generation of “green energy” through the processing of bio-fuels either for use within Tasmania or as an export as a replacement for energy generated through burning fossil fuels in mainland States. This potential is examined further later in this submission.

It is not only the planting, growth and management of forests where the activities of the forest industry can be utilised in redressing the impacts of climate change. The carbon sequestered by a growing tree is not released by the harvesting of a tree but remains stored in the wood product until such time as it is released through rotting or burning.

The Joint FWPRDC and CRC for Greenhouse Accounting Report “Forests, Wood and Australia’s Carbon Balance” clearly demonstrates that Australia’s forests store an estimated 10.5 billion tonnes of carbon (excluding soil carbon) and in 2004 it is estimated that Australia’s plantations and commercial native forests sequestered 43.7 million tonnes of CO₂. This storage is reasonably well understood by the community. What is not well understood is the on-going storage of carbon in wood and wood products in service and these are not accounted for in Australia’s NCAS.

The following extract from that report demonstrates the in-service storage of carbon in wood and wood products: -

“In 2004-2005, Australians used 7.1 million cubic metres of sawn wood and panel products and 4.2 million tonnes of paper products⁹. Most of the wood products are used in residential buildings and furniture.

Residues are produced at each stage of wood and wood-product processing. Typically 40 to 60 per cent of log biomass is lost to residues during processing to green rough sawn boards. A large proportion of sawmill residues are used for paper- and panel-board manufacturing, while in the large-scale softwood sawmilling industry in Australia the majority of the remainder is used to produce steam, with very little burnt to waste. Wastage during secondary processing to wood products ranges from 5 per cent of the board mass in the manufacture of truss, frame and flooring to 35 per cent in the manufacture of shopfitting products¹².



The type of residues generated and their fate are important to the greenhouse impact of wood products. For example, if the sawdust is burnt to waste, the carbon is emitted back into the atmosphere without any benefits. However, if the sawdust is burnt to produce heat for a drying kiln, for example, the energy generated typically avoids the use of fossil fuel energy.”

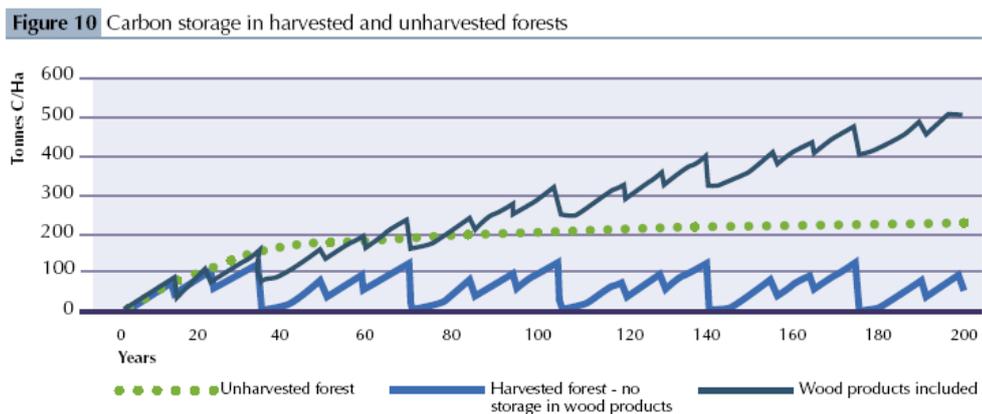
And later on the same page: -

Australia’s National Greenhouse Gas Inventory accounts for emissions from all wood products within Australia (including imported material). Emissions from exported wood products (including woodchips) are reported in the national inventory of the importing country.

Wood and paper products produced in Australia in 2004 stored a net 5.3 million tonnes of carbon. After accounting for emissions from wood products manufactured in previous years (from 1944 onwards), the new wood products produced in 2004 added an estimated 1.44 million tonnes to the net store of carbon in wood products in service in Australia¹³

The Australian Greenhouse Office estimates that wood products in service in Australia (produced from 1944 onwards) are storing about 95.6 million tonnes of carbon⁵.

At page 11 of that report appears the following chart that demonstrates the comparative effect of leaving a forest standing and unharvested compared to the two scenarios of comparing a harvested forest with and without the inclusion of the storage of carbon in wood products after harvest: -



Carbon storage in a forest that is unharvested, harvested (35 year rotation) with no storage in wood products and harvested with carbon storage in wood products recognised. After 200 years, the carbon stored in the “wood products included” option (about 500 t C / ha) was more than double the carbon stored if the forest had been left unharvested for the same period of time. If the forest is harvested and storage in wood products is not recognised, then by year 200 the carbon stored in that forest is only about 50 t / ha or 10% of the “wood products included” option.

However, commercial harvest of forests is considered an immediate emission of greenhouse gases under the current rules of most schemes, with no recognition of the role of wood products in long-term storage of carbon. Failure to account for the long-term storage of carbon in wood-based products could have overestimated worldwide carbon dioxide emissions by at least 10 per cent .

This simulation does not take into account any carbon storage in soil and emissions due to slash decay are assumed to occur at the year of harvest. Carbon storage values for the unharvested forest kindly provided by Mr Rob Waterworth (AGO).



The following commentary from the report is apposite to the deliberations by the Government of strategic methods to combat and or reduce the effects of climate change: -

“The continuing long-term storage of carbon in wood products is a more-secure way of locking up the carbon than retaining it in permanent forests, as forests may be periodically affected by fire, pests and tree mortality caused by drought, storm damage, competition and natural senescence. The higher the number of rotations, the more carbon is stored in wood products, and after only a few rotations the combined pool of carbon becomes larger than that in the unharvested forest (Figure 10) The recognition of long-term storage in wood products in trading schemes has the potential to:

- *increase the value of carbon sequestration in forests, as the penalty currently paid due to harvest would be greatly reduced;*
- *encourage the establishment of more plantations for carbon sequestration, providing greater incentives for smaller growers to participate; and*
- *increase the use of wood products, with overall beneficial impacts on climate and to the wood-products industry as a whole.*

FIAT says that this data clearly provides a case for a strong bias being applied to the use of wood as a construction material and in other uses such as furniture, flooring etc as it provides a clear and sustainable advantage over alternative products that might be applied for the same purpose. A comparison of the greenhouse gasses emitted in the manufacture of various competing building materials is demonstrated by the following table

Life Cycle Assessment (LCA): Greenhouse gases emitted in the manufacture of building materials used in a range of construction components for a single storey house in Sydney

Construction component	Option 1	Greenhouse gas emissions (CO ₂ e)	Option 2	Greenhouse gas emissions (CO ₂ e)
Floor structure	Timber sub-frame	1.9	Concrete slab	12
Floor covering	Hardwood T&G laid on particleboard	0.4	Ceramic tiles	5.2
Wall frame	Timber	0.4	Brick	6.8
Roof frame	Timber	1.2	Steel	5.3
Windows	Timber	0.8	Aluminium	2.2
	Total	4.7	Total	31.5

Source; CRC for Greenhouse Accounting (2006). Counting carbon - timber products. Retrieved February 6, 2007 from http://www.greenhouse.crc.org.au/counting_carbon/wood.cfm



This table clearly demonstrates that for every category timber releases significantly less GHG's than other competing building materials. This evidence provides the opportunity for Government to provide positive support to the use of timber in building construction as part of an integrated strategy to reduce the emission of GHG's.

This approach has been adopted in New Zealand where the New Zealand Government have initiated a programme to provide positive encouragement to increase utilisation of timber in building construction in Government buildings. (Branz Limited, Project Number QC 4979 Issued 30 July 2004, Reviewed 30 July 2006)

FIAT submits that it would be prudent for the Tasmanian Government to provide a similar lead within Tasmania as well as providing an environment of support for use of timber in building construction in the private sector. This could take the form of an incentive based programme that provided some taxation relief for any construction that utilises more than 30% timber in its construction materials.

The approach we advocate has the dual benefits of reduced emissions through the embodied energy utilised in the manufacture of building materials as well as the storage for very long periods of time of the carbon in the wood products.

We note however, that a number of Government policies and legislative enactments act in such a manner as to stifle the true capacity of these initiatives to assist in addressing the dilemma of climate change. An example is the recent decision of the Tasmanian Government to approve the introduction of 5 Star housing provisions for new homes under the Australian Building Code. Due to the rating tools having a significant bias towards building materials with a high thermal mass this decision significantly disadvantages timber in home construction in favour particularly of concrete slab flooring.



The refusal of the Australian Building Codes Board and the Australian Greenhouse Office to utilise an embodied energy approach or a full life cycle analysis approach has significantly reduced the utilisation of timber in housing construction in Victoria with an overall adverse impact in emissions of GHG's (see for example the report titled Productivity Commission 2005 *The Private Cost Effectiveness of Improving Energy Efficiency* Report no. 36, Canberra).

We note in the Draft Policy the reference to the 5 Star Building Project. This project is currently underway in Kingston and will be used to verify the outputs of the rating model (AccuRate) which is used to rate houses. FIAT welcomes this support from the Government on this project and the Government's commitment to not introduce 5 Star in Tasmania until the results of this project are available.

Policies of this type are in need of review if an integrated and effective climate change strategy within Tasmania is to be effective.



Carbon Trading

We note the proposed direction of the Tasmanian Government identified in the draft strategy to participate in the investigation of national emission trading scheme(s) and FIAT endorse the general thrust of this initiative.

It is apparent that the forest industry has the potential to be a significant contributor to a carbon trading scheme through the creation of new carbon sinks to capture and store carbon however we believe that any national carbon trading system should embrace a number of key principles: -

- The scheme must be designed specifically to reflect Australia's emission objectives;
- It must support the necessary international reporting frameworks;
- It must permit the trading of carbon credits whether derived from afforestation, reforestation or from current standing volumes.

It is also clear that any carbon trading scheme will need to be formulated against the backdrop of complimentary policy objectives to facilitate the capacity of the forest industry to create the carbon sinks that would form the basis of such a trading scheme. This would involve a fundamental review of a number of Federal and State Government legislative impediments to the expansion of the forest base and a whole re-evaluation of the attitude and frameworks provided from Local Government.

Measurement of carbon

FIAT believe any trading scheme must adequately and comprehensively account for all of the carbon that is stored in forests and wood and wood products in-service as tradeable commodities within such a scheme. We believe this would include as tradeable carbon the following: -

- Plantations, including standing plantations and new plantations;
- New native forest areas;



- Standing native forest if secured with a reserve or secured through a private land reservation covenant;
- carbon stored in wood and wood products;

It is not appropriate to dwell on these detailed issues within this strategy paper however these and other issues will need to be considered in depth before any national carbon trading scheme can be implemented.

One issue that is worth providing a little more detail on in the context of the draft strategy is the fate within a trading scheme of carbon currently stored in reserved forest areas on both public and private land. We will use the example of old growth forest in Tasmania as a demonstration of the point that we believe has received inadequate recognition in the public discussion about carbon trading schemes to date.

Tasmania has approximately - 1,000,000 ha of old growth forest in reserve which is secured for ever through the RFA and TCFA processes. FIAT contends that this storage of carbon must be recognised within a carbon trading scheme and should be a tradable commodity.

The carbon stored in these old growth forests can be calculated by applying the factor of 220 tonnes per hectare (FWPRDC/CRC for GHA Forest, Wood and Australia's Carbon Balance) equivalent to 807 million tonnes of CO₂ - 80 times Tasmania's 2004 CO₂ emissions.

A carbon trading scheme should be designed in such a manner that the carbon stored forever in these forests should be able to be traded to get credit for the management and maintenance of the reserved oldgrowth forest and the carbon store that it currently holds.

In a context only of the stored carbon in these forests compared to the opportunity to effectively manage the forests for their full range of benefits including harvesting and regeneration with the benefits of additional carbon storage in the in-service wood and wood products derived from those forests along with the sequestration of carbon by the new forest produces a foregone opportunity cost to the community as a whole. The opportunity carbon sequestration cost of not managing



reserved oldgrowth forest for sustainable timber/biomass production is around 2 tonnes of carbon (7.34 tonnes of CO₂) per hectare per year (FWPRDC/CRC for GHA: Forest, Wood and Australia's Carbon Balance - Figure 10).

Assuming around 50% of Tasmania's reserved oldgrowth forest could be sustainably managed for wood/biomass production - allowing for necessary conservation and environmental reserves - the opportunity carbon-sequestration cost of not doing so equates to around 3.7 million tonnes of CO₂ per year - or around 34% of Tasmania's 2004 emissions.

Any carbon trading scheme should ensure that the benefits derived by the community as a whole in the reservation of forested areas is capable of being recognised as a tradable commodity and this must include carbon stored in reserved forest areas and the foregone carbon sequestration cost of not maximising the productive capacity of those forests.



Managing the Process

FIAT is grateful that the Tasmanian Government has taken a lead in the development of the draft strategy and acknowledges the thought and effort that has gone into producing the draft strategy. In acknowledging that leadership however, we also believe that a strategy to implement change arising from climate change or to reduce the impacts of climate change cannot be driven by Government alone.

It will be a vital component of any strategy that it has the capacity to take the people with it to ensure that the community as a whole are committed to ensuring that the strategic directions are implemented in an optimal way and with the cooperation and support of the general populace.

For this reason FIAT submit that the Government should adopt a strategy of advancing this strategy through the promulgation of a Task Force that would provide the primary means of consultation with the community and the body that would provide advice to the Government on the views of the community. We note that we do not propose that the Government abrogate its proper role to make decisions in accordance with the mandate provided by the electorate rather we say this body would provide a focussed interface between the Government and the community as a whole.

It would be important that any such body would need to be broadly representative of the Tasmanian community and would need to include experts in various scientific disciplines to guide the deliberations of the Task Force as a protection against aberrant decision making.

As the issue of climate change and its potentially severe impact on the environment and the lives of all Tasmanians we say it is proper that the community not only be given a voice in the process but that the community be required to be part of devising the solutions that form part of a strategic approach to the climate change issue.



Ratification of the Kyoto Protocol

We note the observation on page 21 of the draft strategy that the Tasmanian Government advocates ratification of the Kyoto Protocol. It is not apparent from the draft strategy exactly why this position is adopted nor what ratification of the protocol will achieve in itself to further the cause of reducing the impact of climate change in Tasmania.

Much of the media attention on the whole issue of global warming/climate change is being diverted to the political controversy over whether or not Australia should become a signatory to the Kyoto Protocol. FIAT believe this is not a healthy or necessary debate as the key issue and the one requiring the full focus of all parties must be on the achievement of results in Tasmania not on playing politics over the Protocol.

Signing the Kyoto Protocol will not of itself do anything to improve the climate change outcome for Australia and especially not for Tasmania and should be regarded as a side issue and should not form part of a strategy for Tasmania as it is not an issue within our control.

In our view this is more correctly an issue for the Federal Government to consider and given that Australia has set itself a target of achieving an outcome consistent with the Kyoto Protocol and is reporting actual results against the 108% target identified by the Kyoto Protocol the ratification is a mute point.

The Australian Greenhouse Office in December 2006 published a report titled Tracking the Kyoto Protocol – Australia’s Greenhouse Emissions trends 1990 to 2008 – 2012 and 2020 which provides a comprehensive analysis of the actual and trend data relevant to comparing Australia’s performance against the notional Protocol target. In the summary of that report the authors offer the following commentary: -

***“Current analysis projects Australia’s greenhouse gas emissions at 109% of the 1990 emissions level over the period 2008–12, which is slightly above the 108% Kyoto target. However, Australia remains committed to meeting its target.*”**



Australia's greenhouse gas emissions are projected to reach 603 million tonnes annually of greenhouse emissions (Mt CO₂-e) over 2008–12, which is 109% of 1990 levels.

The new projection is slightly higher than the previous projection of 108% of 1990 levels. This reflects stronger growth of emissions from electricity generation.

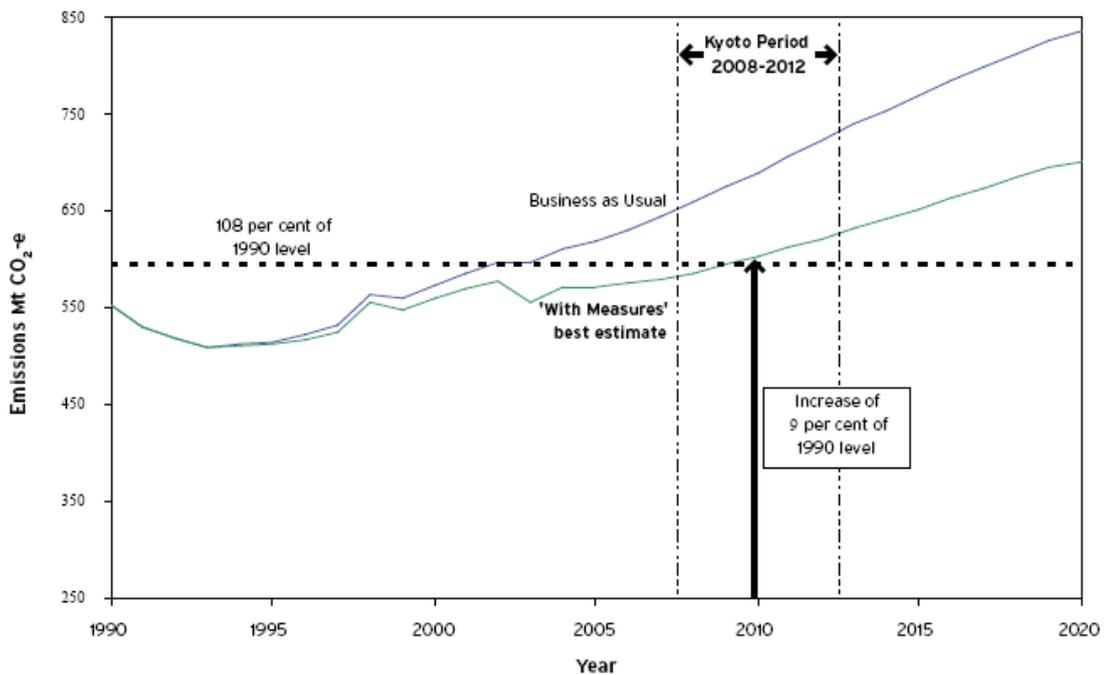
Emissions from 1990 to 2020 including savings from greenhouse measures are shown in Figure 1.

The Australian Government along with State, Territory and Local governments have implemented a range of policies and programs, and actions have been taken by business and the community. The combined effect of these efforts is expected to cut annual emissions by 87 Mt CO₂-e by 2010. The Australian Government is addressing further measures to help meet the Kyoto target.

'Business As Usual' emissions growth would have reached 125% of the 1990 level by 2010, in the absence of greenhouse measures."

The Table referred to in that report is reproduced below for information.

Figure 1: 'Business as Usual' and 'With Measures' emissions estimates





This data demonstrates that Australia is slightly below its targeted outcome for the period to 2012 i.e. 109% versus 108% which clearly demonstrates the need for all parties including the Federal, State and Local Governments and industry and the community at large to co-operate in finding further reductions in emissions rather than debating the efficacy or otherwise of having refused to sign the Kyoto Protocol.





Bio-fuels for energy Production

An important element in the mitigation of climate change will be to reduce the emissions of carbon into the atmosphere throughout all sectors. Energy generation is by far and away the single biggest emitter of carbon in Australia and any strategy will have to target reductions in this sector if any meaningful level of effectiveness is to be achieved.

In the case of Tasmania this issue is by no means as large a problem as it is for the rest of the country given our relatively greenhouse friendly energy generation through the use of hydro and wind power however we do still emit 2.1 Mt CO₂ e (2004) or 20% of our total emissions through stationary energy generation which must be targeted for reduction along with all other emissions.

FIAT believes a real opportunity exists for the creation of energy through the use of bio-fuels. The following extract from the joint research report by FWPRDC and the CRC for Greenhouse Accounting – “Forests, Wood and Australia’s Carbon Balance” succinctly summarises this situation: -

“Wood can be combusted to produce heat (residential use, cooking) and to generate steam. When wood is used to generate energy, it can replace fossil fuels such as coal, oil and natural gas. Use of fossil fuel releases carbon from a very-long-term store that cannot be replenished in less than geological timescales. Provided the forest is regrown, the use of wood for energy production results in relatively little net carbon emissions (when emissions from fossil fuels used in the harvesting, transport and processing of the wood are considered). The use of sustainably harvested wood to generate energy thus eliminates greenhouse gas emissions that would have resulted from the use of fossil fuels. Net carbon dioxide emissions from the generation of electricity using biomass are typically only 5 per cent to 10 per cent those from fossil-fuel-based electricity generation²⁹.”

The forestry sector is a large user of renewable energy, most notably through the production of firewood (from hardwood forests and from residues generated during processing of timber) and the use of residues from wood processing as a source of energy in processing plants and factories.

The Australian Government introduced in 2001 Mandatory Renewable Energy Targets (MRET) requiring the generation of 9,500 gigawatt hours of extra renewable electricity per year by 2010 (equivalent to an additional 2 percentage points of total generation coming from

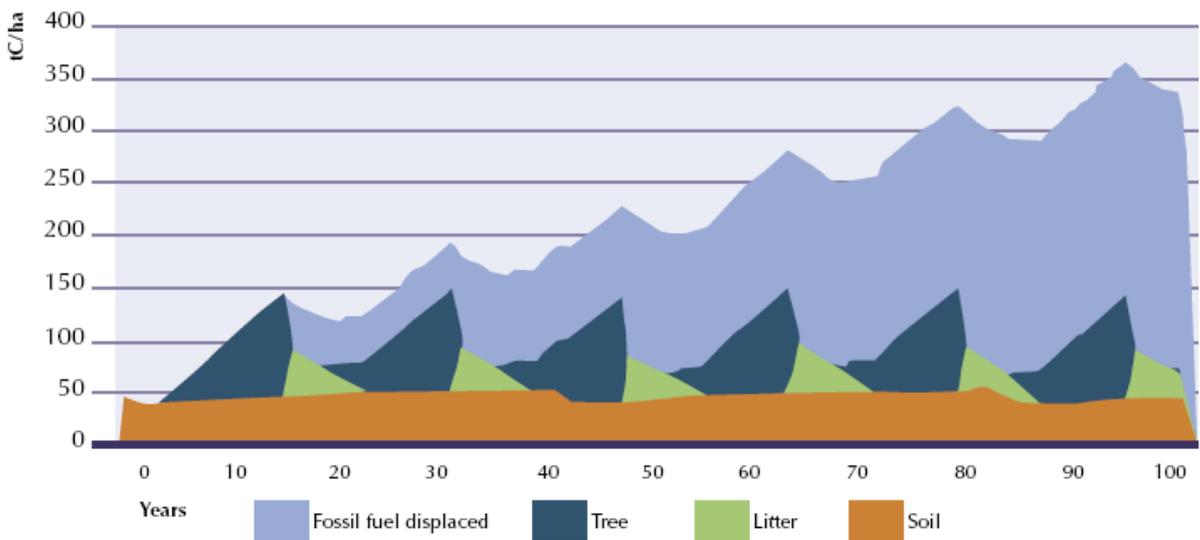


renewable fuels). It is estimated that 5 million cubic metres of residues are generated from commercial forest harvest operations each year. If an extra 4 million cubic metres of that residue was used for generating electricity, 30 per cent of the MRET target would be met³⁰. However, wood residues accounted for only 4 per cent of MRET certificates created by 2003 (mostly through the use of biomass in power stations to generate electricity)³¹

The use of planted forests as ‘bioenergy crops’ and the increased use of existing harvest residues from managed native forests could reduce Australia’s use of fossil fuels. The associated economic impacts and greenhouse benefits will depend largely on transport distances, renewable energy technology, type of fossil fuel displaced and government incentives.

Forests can also produce greenhouse benefits through the use of alternative technologies, such as use of wood for the production of liquid fuels (ethanol and methanol), gasification and fast pyrolysis.”

Figure 9 Eucalyptus plantation growing at 18 cubic centimetres per hectare per annum, 100km biomass transport, co-firing, combust wet



The fossil-fuel displacement benefits that can be obtained for a Eucalyptus plantation (15 years rotation) in northern NSW. The harvested biomass is used for bioenergy, and the effect of fossil-fuel displacement increases with each rotation, becoming the dominant pool of carbon after the second rotation.

Source: Adapted from IEA Bioenergy Task ³⁸

The National Association of Forest Industries (NAFI) then Deputy Chief Executive, Phil Townsend in an address to the Bio-energy Australia Conference on 8 – 9 December 2003 made the following observation: -



“From a timber industry perspective, forest growers and timber processors have the existing capacity to supply the wood waste to produce almost 3,000 GWh of electricity each year, without harvesting one more hectare of trees. If the available resources were used to produce renewable energy, it would result in \$800m of new investment in new plants throughout regional Australia and employment for over 2,300 people.

Delivering these investments would supply enough electricity for 400,000 houses and provide significant environmental benefits for both the nation's forests and the rural landscape. This level of activity would lead to a permanent reduction in Australia's greenhouse gas emissions from fossil fuels of 2.2 million tonnes CO₂-e each year. It would add to the existing industry use of low-grade timber processing and harvesting residues to produce steam, heat and energy.”

Source: <http://www.nafi.com.au/library/viewarticle.php3?id=101>

FIAT has endeavoured to consider this data in a Tasmanian context to calculate the energy produced from bio-fuels could contribute and the extent to which it might be used to reduce the use of fossil fuels for energy in other states through sale on the National Electricity Market via Bass Link

Tasmania currently has an electricity demand of 10,000 KWh/year (Raison et al, (2002) citing URS (2001)). Our current generating capacity is 10,205 GWh/year (Raison et al, (2002) citing URS (2001)).

We have estimated residues from Tasmanian State forests to be conservatively between 2.5 and 5 million tonnes per annum after recovery of commercial wood. We have further calculated that private forestry operations could conservatively generate approximately 50% of this amount giving a total residue of 3.8 to 7.5 million tonnes.

Conversion of green bio-fuel to energy is estimated to be approximately 0.60 MWh per green tonne (calculated from estimates in Raison, Kirschbaum, McCormack, (2002) citing URS (2001) plus Attiwell (University of Melbourne) and Richardson (University of Tasmania)). We have



assumed that embodied energy in delivered green wood (harvesting, transport, replanting of forests etc.) at approximately 0.14 MWh per green tonne (23% of the energy value of produced electricity). These calculations reveal that Tasmania's potential energy generation from bio-fuel is approximately 2.3 to 4.5 GWh of bioelectricity per year or: -

23%-45% of Tasmania's (2002) electricity consumption

1.1%-2.1% of Australia's (2006) electricity consumption

24%-47% of Australia's 2010 MRET (9500 GWh/yr)

33%-66% of Australia's 2008 MRET (6800 GWh/yr).

Much of these residues are already burned following forest harvesting activity with the consequent release of CO₂ into the atmosphere without the countervailing benefit from the generation of energy. FIAT believes that it would be prudent to harness the energy from these activities as a substitute for fossil fuel combustion through sale into the National Electricity Market via Basslink. This would benefit Australia as a whole and Tasmania in particular.

The quest for low carbon emission energy has seen a world-wide move towards renewable energy sources. For instance, energy targets in the European Union for 2010 (EU-25) are to increase the share of renewable energies from 6% to 12% of gross energy consumption, of green electricity from 14% to 21% of gross electricity production and of liquid bio-fuels to 5.75% of total fuel consumption. In the EU, the biggest renewable energy contribution (63 percent) comes from biomass.

By 2010, biomass is expected to cover as much as 8 percent of the total EU energy supply. Forestry biomass, including logging residues and sawmill wastes currently provides the major proportion of the European Union's biomass use. At a global level in 2004, biomass provided some 10.4% of the world's total primary energy supply (total renewables provided 13.1 percent). As such, biomass and bio-energy are important contributors to sustainable low emission energy, with huge potential for Tasmania, given appropriate policy and regulatory frameworks.



At the current time it is not feasible for bio-energy to be utilised for energy production due predominantly to the following factors: -

- Regulatory impediments to the use of wood waste for bio-fuels continues to cause frustration to advancement in this area;
- Recovery of slash from harvesting operations is not economically viable;
- No co-ordinated recovery and processing operations exist to convert wood waste to bio-fuels;
- It is difficult to obtain MRET credits for the use of native forest residues for power generation.

FIAT believes this is an area where considerable benefit can be achieved in reducing the State's carbon emissions and in providing a significant contribution to the reduction of carbon emissions in the stationary energy sector on mainland Australia through the use of Bass Link to sell "greenhouse friendly energy".

It will be necessary to research the capability and cost effectiveness of a proposal to produce energy from biofuels, however FIAT believes that this is worthwhile research that could have the potential to produce significant reductions in emissions from stationary energy production. Consideration could be given to adding to the forest residues available those wood products that have reached the end of their serviceable life and these too could be used as an alternative fuel source to fossil fuels.

There is considerable political opposition to utilising forest and green sawmill waste to generate electricity. In FIAT's opinion this opposition is blinkered and politically inspired as if the results predicted in this submission are able to be achieved without any increase in harvesting through simply creating a valuable and greenhouse positive energy source then that must be considered to be economically prudent as well as environmentally sensible.



Communicating with the People

As stated earlier in this submission a key factor in combating climate change is in firstly informing the people in such a way as to unequivocally demonstrate the need for change and secondly to demonstrate the viability and effectiveness of adopted strategies to combat the adverse effects of climate change.

It is FIAT's strongly held position that the current mixed messages for the public debate about climate change with its inherent political point scoring is creating a confusion in the minds of the general public about the reality of climate change and therefore the need to embrace any required changes. This political point scoring is not limited to political parties but is the stock in trade of many involved in public debate and is not conducive to providing a reliable and consistent view of the real situation in the minds of the community.

It is incumbent on the Tasmanian Government to clearly articulate to the people of Tasmania the real situation in respect to climate change and ideally this would be done in a non-confrontationist manner and would carry the support of at the least the Liberal Opposition to provide a bipartisanship that will instil confidence that this issue is not about political point scoring.

This approach will involve a high level of statesmanship and leadership to put aside political positioning in favour of presenting a rational approach in favour of the greater good of the community as a whole. The first step in such a process should involve the establishment of a broadly based consultation framework revolving around a stakeholder group of the type discussed earlier in this submission. This group would need to be widely representative of the disparate groups that have a genuine interest in this vexed subject and who are prepared to sign on to a genuinely participative and cooperative approach to seeking solutions to the issues presented by climate change.



A significant part of such a framework would of necessity be a broadly based and extensive communication strategy to impart to the Tasmania community in a non-partisan way

- the reality of climate change;
- the Government's (and others) commitment to address the issue for the good of all;
- the need to deal with unpopular and difficult strategic decisions cooperatively in a bipartisan way;
- seeking the support of the whole community to minimise the impact of climate change on the State;
- advocating in a bipartisan manner a strategic approach to climate change that is based on the best available science.

To date no one group in the community has managed to set aside partisan beliefs to deal with the potential impacts of climate change and the government must grasp this difficult baton in the interests of the whole community and show the leadership necessary to enable them to make difficult decisions without the constant fear of political backlash.

From the forest industry perspective this communications strategy should embrace clarifying the contributors to Tasmania's current carbon emissions as extrapolated earlier in this submission rather than permitting misconceptions based on misleading reporting to cloud the benefits that are able to be offered by the forest industry to reduce the adverse impacts of climate change.



Local Self Sufficiency versus Imports

It is important to also examine the issue of climate change and the potential to reduce its impacts and/or severity from a more global perspective to ascertain what action Tasmania can take to influence the reduction of GHG's into the atmosphere in a global context.

Australia currently imports in excess of \$4 billion in wood and wood products with a balance of trade of over \$2 billion each year. Of these imports approximately 9% or \$400M of forest products are suspected of being from illegal sources (Jaako Poyry Consulting (Asia Pacific) Pty Ltd, Overview of Illegal Logging, 2005).

The Food and Agriculture Organisation's Global Forest Resources Assessment estimates that the current rate of global deforestation is approximately 23 million hectares a year (Food and Agriculture Organisation of the United Nations, *Global Forest Resources Assessment 2005. Progress towards sustainable forest management, FAO Forestry Paper 147, Rome, 2005*). Most of this deforestation is the result of forests being converted to agricultural cropping land but illegal logging is thought to be a significant component of the problem.

The World Bank estimates that illegal logging costs the global market more than US\$10 billion a year.

In addition to the readily quantifiable illegal logging there remains considerable doubt about the extent of unsustainable forest harvesting that does not adopt the stringent sustainability criteria practiced within Australia and particularly within Tasmania the products from which form a considerable proportion of the imports of wood and wood products into Australia. A significant proportion of these imports are from third world countries and are as a result of the clearance of land without regeneration which on a global scale is contributing significantly to the emission of GHG's and therefore global warming.



FIAT contends that it is incumbent on a country like Australia to be as self sufficient as possible in the production of our wood and fibre products to ensure that the highest possible standards of sustainable forestry underpin our consumption of these products and to ensure that our consumption of forest products does not contribute unnecessarily to climate change.

There is much that can be done by Tasmania and by Australia as a whole to ensure that we minimise the importation of suspected illegally harvested materials and those that are produced from unsustainably managed forests in third world countries.

Many of these steps are outline in the federal Governments discussion Paper “*Bringing Down the Axe on Illegal Logging – A Practical Approach, November 2006. Department of Agriculture, Fisheries and Forestry.*.)

In addition to the initiates in the DAFF Discussion Paper FIAT say that more must be done to maximise the extent to which we source our forest products from our own resources rather than through imports and through this mechanism we can ensure that we are minimising the extent to which we are contributing to climate change from deforestation.