AFPA submission to the Victorian Government’s Interim Emissions Reduction Targets for Victoria (2021-2030) consultation

26 July 2019

The Australian Forest Products Association (AFPA) welcomes the opportunity to provide a submission to the Department of Environment and Energy’s ‘Climate Change Policies Review Discussion Paper’.

AFPA is the peak national industry body representing the Australian forest, wood and paper products industry’s interests to governments, the general public and other stakeholders on matters relating to the sustainable development and use of Australia’s forests and associated manufacturing and marketing of wood and paper products in Australia.

The forest, wood and paper products industry is one of Australia’s largest manufacturing industries with an annual turnover of approximately $24 billion. Around 120,000 people are directly employed along the industry value chain with a further 180,000 jobs supported through flow-on economic activity. It contributes around 0.6% to Australia's gross domestic product and 6.7% of manufacturing output.

In Victoria, the industry contributed $7.3 billion to the state economy in 2016-17, directly employed 15,000, and supported an additional 40,000 to 50,000 jobs, many of them in regional and rural areas.¹

Trees are a sustainable biological resource that produce renewable wood and paper products including the development of new and innovative products such as biomaterials, biochemicals and bioenergy. They also provide a range of environmental benefits, including the carbon stored over time in the growing forests and harvested products. In addition, relative to alternative materials such as steel, aluminium and concrete, wood products have very low embodied energy, with very low fossil fuel energy inputs used in their production.

AFPA recognises the proud social, economic and environmental record of the Australian forest products industry and the inherent environmental strengths of these products as a renewable resource with a high propensity for recycling, a low carbon footprint and responsible sourcing from sustainably managed forests and fibre waste streams. AFPA actively promotes the important role the forest products industry can play in reducing greenhouse gas emissions and assisting ambitious national and regional climate change policies to transition to a carbon constrained future.

¹ VAFI Industry Review 2017, p5
The major pathways for emissions abatement from the forest products industry include:

- the carbon sequestered in growing forests;
- the carbon stored in durable wood and paper products;
- the substitution of high emissions materials (e.g. steel, concrete) with wood and other fibre based products that have low embodied energy; and
- the use of woody biomass for renewable energy (including for thermal energy and biofuels), thereby displacing fossil fuels.

AFPA urges the Victorian Government to incorporate these emission abatement opportunities in future climate change, industry and energy policy reforms to better capture their benefits and incentivise the providers of the emissions abatement.

**Managed native forests are a more effective way of reducing greenhouse gas emissions than locking them up for conservation**

The Final Report wrongly asserts that reduced harvesting in native forests will increase carbon sequestration. This is at odds with the international and Australian scientific evidence.

The significant potential for the forestry and forest products industry to contribute to climate change mitigation was acknowledged in the 4th assessment report of the International Panel on Climate Change (IPCC), which stated:

> A sustainable forest management strategy aimed at maintaining or increasing forest carbon stocks, while producing an annual sustained yield of timber, fibre or energy from the forest, will generate the largest sustained mitigation benefit.

Furthermore, all native forest harvested in Victoria (and Australia) is sustainably regenerated and so does not result in deforestation. Claims that a reduction in timber harvesting sequesters more carbon also ignore the stored carbon from the timber and paper products produced, and the substitution that would occur with imported wood and paper products from countries that do not have the stringent environmental protections and sophisticated forest managements practices that are in place in Australia.

A study by NSW Department of Primary Industries scientist Fabiano Ximenes in 2012 found that:

> The data show total GHG emissions abatement and carbon storage from a multiple use production forest exceed the C storage benefit of a conservation forest... Action to reduce logging in Australian forests, with the objective of increased carbon storage, could have perverse global GHG outcomes.

> Converting multiple use production forests to conservation forests will reduce access to wood and may lead to increased harvesting in other countries where forests are not managed sustainably, with resultant deforestation or forest degradation in those countries.... To quantify the climate change impacts of forestry, the entire forestry system should be considered: the carbon dynamics of the forest; the life cycle of forest products; the substitution benefit of biomass and
wood products, and the risk of leakage resulting from deforestation or forest degradation in other countries.  

A subsequent study by Ximenes for Forest and Wood Products Australia that also looked at the managed native forests of the Victorian Central Highlands found that when the impact of paper substitution is taken into account – that is, the increased use of paper made from fibre sourced from South-East Asia – the carbon benefits of a managed native forest are greater.

The results clearly indicate that ignoring the paper substitution impact would majorly underestimate the current GHG balance of native forestry for the pulp-producing regions.

The study also found that these carbon benefits are maximised if there is increased use of woody biomass for bioenergy, which uses forest and mill residues to displace fossil fuels in industrial processes:

We demonstrated in this study that one of the ways to enhance the GHG outcome of production forestry is via the increased use of biomass for bioenergy. There are large volumes of harvest slash and mill-based residues available for use. The current business as usual (BAU) scenario for forest harvest residues results in immediate C release (via post-harvest burns), or progressive C loss over time due to natural decay. Similarly the current BAU for much of the available wood-processing residues currently used for low-value applications such as mulch and animal bedding results in release of all the C within 1-3 years, with no net GHG benefit.

Thus there are significant opportunities for native forest biomass to play a much larger role in the generation of renewable energy, especially with the recent reinstatement of native forest biomass as an eligible renewable energy source under the Renewable Energy Target (RET). There may also be opportunities in the future for new projects to be supported by a method under the Emissions Reduction Fund (ERF) that credits the fossil-fuel displacement benefits of using biomass for energy displacing the use of fossil fuels, against the baseline of loss of C in the forest via burning or natural decay. This would allow project proponents to choose which scheme (RET or ERF) would be most suitable for a given project.

Incentivising new production tree plantings through carbon payments

Australia’s emission reductions continue to rely on the land based sector and forestry activities, through recognition of the carbon sequestered from post-1990 afforestation and reforestation activities (i.e. mainly commercial plantations) and avoided deforestation from reduced vegetation clearing for agriculture.

The current forestry plantation estate already contributes an emission offset of around 4.6% of Australia’s total emission of 536 million tonnes, mainly from the approximately 800,000 ha of Kyoto compliant plantations (i.e. those established on cleared agricultural land since 1990). It is important to acknowledge that the commercial plantation estates offer one of the most

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2 Ximenes, F.A., et al., 2012. Harvested forests provide the greatest ongoing greenhouse gas benefits. Does current Australian policy support optimal greenhouse gas mitigation outcomes?

efficient and effective approaches for large-scale reductions in net carbon emissions over the longer term.

AFPA believes that, with the right policy settings, the forest, wood and paper products industry has the potential to play an even greater role in in Australia’s ongoing mitigation effort. Indeed, the inclusion of commercial forestry activities is essential to the overall success of the Federal Government’s Climate Solutions Fund (formerly the Emissions Reduction Fund, and before that the Carbon Farming Initiative) and the ability to meet Australia’s emission reduction targets into the future.

As the Final Paper notes, there has been virtually no uptake of forestry projects in the ERF. This is not for lack of interest. Rather, it is because the regulations exclude tree plantation projects in regions with average annual rainfall above 600 mm, and farm forestry projects in areas with average annual rainfall above 600mm. These rainfall thresholds effectively exclude projects anywhere in Victoria where there is demand for more plantation timber.

However, under a provision in the *Carbon Credits (Carbon Farming Initiative) Regulations 2011*, the Clean Energy Regulator will consider forestry projects in areas above the rainfall thresholds if the relevant State Water Department makes a determination that the commitments under the National Water Initiative (NWI) to manage water interception by plantations have been adequately implemented. AFPA has previously tried to engage with the Victorian Government to explore this provision without success and we would urge the Government to revisit this opportunity.

In the context of the Victorian Government’s $110m investment to expand plantations in Gippsland, there is an opportunity to leverage the carbon payments under the CSF to deliver much more plantation growth in the region than would otherwise be possible with $110 million. An example of this concept is the Queensland Government’s $500 million Land Restoration Fund, aims to expand carbon farming in the state by supporting land-sector projects that deliver clear environmental, social and economic co-benefits (such as environmental, productivity and water quality).

AFPA urges the Victorian Government to assess the eligibility of new forest plantation projects, initially within the identified industry hub in existing forest plantation regions of Gippsland and western Victoria, for recognition as eligible offset projects under Regulation 3.37(8) contained in the CFI Regulations. This assessment would then need to be communicated to the Clean Energy Regulator so that potential new project proponents can develop their CSF application with this additional information in anticipation of participating in an upcoming auction.

**Incentivising Farm Forestry**

It was pleasing to see the inclusion of Jigsaw Farms as a case study in the Final Paper. Senior figures from AFPA and the National Farmers Federation including NFF CEO Tony Mahar undertook a field trip to Jigsaw Farms earlier this year to learn more about how integrating production trees on farmland can improve productivity as well as diversify on-farm income.

Farm forestry allows farmers the opportunity to plant a long-term agricultural crop for timber production. It can improve agricultural productivity by providing shelter for stock and crops, increase biodiversity, provide other environmental benefits such as decreased erosion, habitat restoration, increased water quality, salinity control and is an alternative source of income for farmers.

Farm Forestry can provide farmers with the ability to reduce their carbon footprint and be renewable as has been recognised by the Federal Government, wood that is grown for harvest
has a positive carbon benefit, as half the weight of timber is carbon, and is stored long-term in wood and paper products.

Approximately 18% of Jigsaw Farms land is reserved for farm forestry and environmental works – their farm shows that looking after and developing the non-pasture areas assists in increasing their farm’s productivity.

Jigsaw Farms sees many benefits in trees and protected waterways, including future income from wood products, shelter for stock welfare and productivity, especially calving, lambing and after shearing, shelter to lift winter pasture production by 6-8% through a reduction of the wind chill factor on pastures, contribution to climate-change mitigation and adaptation, and habitat for wildlife. Jigsaw Farms have achieved carbon neutrality and have sold wool to Italian manufacturers at a premium price.

With Australia’s plantation estate declining amid record global and domestic demand for timber and wood products, Australia’s forest industries have identified the need for an additional 400,000 hectares of plantations to be planted over the next decade. We believe that around one quarter of this – 100,000 hectares – can be achieved by new Farm Forestry plantings.

AFPA has been working closely with the National Farmers Federation and other stakeholders on how to achieve this target in a way that benefits farmers and forest industries, and ensure we get the right trees in the right places.

On 12 September 2018, the Federal Government announced its national forestry industries plan, ‘Growing a Better Australia – A billion trees for jobs and growth’.

The Plan includes a commitment from Government to support the planting of 1 billion new plantation trees over the next decade. The 2018-19 Budget committed $20 million to support the Plan’s actions, however, to date only $1 million has been announced, and significantly more investment is needed to achieve this ambitious target.

**Renewable heat in industrial processes**

Energy is a far broader term than just electricity, it also includes thermal (heat) such as steam used predominately in large industrial processes. The Federal Government’s Large Scale Renewable Energy Target (LRET) currently only recognises the renewable energy benefits from electrical energy (such as the replacement of coal with renewable biomass fuel which is used to produce electricity).

A significant renewable energy opportunity is currently being missed and it is recommended that the use of renewable biomass should similarly extend to the generation of heat energy (i.e. steam for process drying as in papermaking or sawn timber mills). It is conservatively estimated that the inclusion of renewable heat in the RET has significant potential and could contribute the equivalent of several thousand GWh in renewable energy per annum from the wood and paper products industry in Australia. It should be noted that in the current Small-Scale Renewable Energy Target (SRET), solar hot water is already included as a source of renewable heat.

**Incentivising renewable bioenergy and biofuels**

Globally, bioenergy (i.e. energy sourced from biomass) accounts for around 77% of renewable energy, which represents 13% of the world’s primary energy mix. Woody biomass accounts for nearly 90% of the world’s renewable energy supply. Residues from Australia’s forest, wood and
paper products industry hold great potential as alternatives to fossil fuels for energy
generation. Biomass can be used for renewable electricity, heat and liquid fuels, which tend to
be more efficient than electricity generation.

The International Energy Agency (IEA) forecasts that by 2050, bioenergy could provide 3,000
TWh of electricity or 7.5% of world electricity generation. In addition, heat from bioenergy
could provide 15% of global final energy consumption in industry and 20% in the building
sector. However, despite having the highest area of forest per capita of the developed nations,
Australia lags in the use of bioenergy, which represents less than 1% of electricity production.
In Finland, bioenergy contributes 16% of energy consumed. In Denmark it is 15%. In Sweden
more than 7%.

Sustainably produced biomass from timber processing activities (such as sawdust, timber
offcuts and forestry waste) and other agricultural sources, can offer significant potential to
contribute to Australia’s renewable energy future. Currently, Australia’s timber industry
produces a large amount of sustainable biomass from timber processing and paper
manufacturing operations. However, only some of it is being utilised in local or regional
bioenergy facilities, or as wood pellets that are exported overseas as a source of renewable
energy. This export market potential also demonstrates the imbalance in renewable energy
policy settings, whereby markets in many countries in Europe and Japan, for example, can offer
better prices for sustainable biomass given their more favourable renewable energy policies.

Uniquely, bioenergy can deliver baseload power 24 hours a day, 7 days a week, unlike many
alternative renewables. Bioenergy can also support greater jobs compared to other
renewables, and it is well suited to many existing wood and paper product manufacturing sites
in rural and regional areas.

Bioenergy produced from sustainable biomass is renewable. Under the Kyoto Protocol,
bioenergy is regarded as CO₂ neutral. The United Nations Framework Convention on Climate
Change also defines bioenergy as renewable, if it is produced from biomass that is sustainably
managed. Australian governments recognise it as an eligible renewable source under the
current Renewable Energy Target, and other renewable energy and climate change policies and
initiatives. The Clean Energy Finance Corporation (CEFC) recognises the significant potential for
bioenergy to contribute to renewable energy, biofuels and carbon emissions, creating the $100
million Australian Bioenergy Fund⁴ to invest in bioenergy and waste to energy projects. As at
June 2015, the Australian Renewable Energy Agency (ARENA)⁵ had invested over $7.6 million in
bioenergy projects and wants to invest more in this renewable.

The use of renewable heat is actively promoted in Scandinavia and many other parts of the
world as an effective means for reducing fossil fuel reliance. The lack of incentives for the use
of forest biomass in energy generation creates a serious imbalance in the renewable energy
market and misses some of the lowest cost opportunities for carbon emissions abatement.

Policy development needs to be flexible to support a potentially broad range of bioenergy-
based opportunities from small co-generation facilities located in small regional areas to large
facilities located in cities and other industrial centres.

AFPA supports renewable energy policies that:

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⁵ https://arena.gov.au/funding/investment-focus-areas/bioenergy/
• recognise the potential and develop incentives for renewable energy opportunities for bioenergy, including for renewable electricity, heat (i.e. renewable thermal/steam) and biofuels;
• support the inclusion of both plantation and native forestry harvesting and processing residues from sustainably managed operations as renewable energy sources which must be provided the same opportunity for renewable energy credits (or any other policy instrument) as hydro, wind and solar;
• support greater utilisation of waste to energy systems; and
• provide a level playing field for bioenergy with respect to other clean technology sources, such as wind and solar.

Forest industries and carbon life cycle assessment benefits

Land based emission reduction schemes such as the Carbon Farming Initiative (CFI) and Emissions Reduction Fund (ERF) need to recognise the full life cycle benefits from harvested wood and paper products in addition to the carbon stored in trees (see Figure 1). A full life-cycle analysis of forest products will also consider their relatively low embodied energy and clarify the advantages of using them to substitute for other materials and/or other wood product imports.

Figure 1. Carbon emission abatement implications (t C ha-1 sequestered or displaced) of the conservation and harvest scenarios for North Coast of NSW forests.


As the only carbon positive sector of the Australian economy, the forest products industry should be at the forefront of a renewable and sustainable economy. However, the policy environment for enabling carbon-based opportunities to be realised fully is either yet to be developed or is impeded by the existing regulatory environment.

Given the role of harvested wood and paper products (HWPs) as a carbon store and their substitution effects, there is a need for more appropriate implementation of life cycle inventory (LCI) and life cycle assessment (LCA) with respect to procurement of building
materials and paper products. By tracking the inputs and outputs for each stage of production and consumption, the LCI of a product can be traced from cradle-to-grave, including in-service, recycling and landfill. Full life cycle accounting can identify and compare the low embodied energy of wood and paper products versus other more carbon-intensive products which is important in terms of the use of wood in reducing emissions in housing and non-residential construction.

To realise some of the forest industry’s carbon-based emissions reduction opportunities, AFPA urges the Government to:

a) take a holistic view of the carbon emission abatement potential of naturally regenerated forests and plantations recognising their multiple carbon sequestration and product substitution benefits;

b) provide a policy framework for carbon that does not attempt to regulate other land use issues (e.g. water, biodiversity, community issues), which are more appropriately addressed elsewhere in public regulation;

c) amend existing regulations to value the carbon stored in wood and paper products over their service life and beyond through landfill;

d) ensure building codes and energy rating schemes do not unfairly restrict the use of wood products, and recognise their life-cycle benefits and low carbon footprint; and

e) that Government agencies more adequately take into account and implement LCI and LCA assessments, including the carbon emissions profile of alternative materials on a whole-of-life procurement basis, as part of the environmental sustainability provisions of the Commonwealth Procurement Rules (CPR).

Government procurement policies

Given their inherent environmental strengths as a renewable resource with a very low carbon footprint, forest products should be adequately acknowledged in public procurement programs. Planet Ark in their national ‘Make it Wood’ campaign have identified that local, state and national governments around the world are working hard to find ways to help tackle climate change. Local governments are often leading the way with energy saving and green building policy solutions. They state that building with responsibly sourced wood can help meet climate change targets as well as deliver other benefits like increased speed of construction and better health outcomes.

As an example, national governments (in countries such as New Zealand, Canada, France, Finland and the Netherlands) and many local governments in Australia (such as the Latrobe City [in Victoria] and Wellington [in NSW] councils), are adopting Wood Encouragement Policies (WEPs) as part of their procurement practices to better capture the carbon abatement benefits of using more wood in building and construction.

Governments are urged to develop and adopt similar WEPs for all housing and commercial construction developments. A WEP generally requires responsbibly sourced wood to be considered, where feasible, as the primary construction material in all new-build and refurbishment projects. A WEP does not mandate the use of wood, but rather requires its full consideration as a preferred building material when it is equally fit-for-purpose. The emissions

abatement potential from adopting policies such as WEPs can make a significant contribution to reducing emissions.

These opportunities are also relevant in the context of mid-rise and multi-residential construction trends and changes to the National Construction Code (NCC), which now allows for timber construction up to 25 metres or around 8-storeys in height. The changes to the NCC allow buildings in Classes 2 (apartments), 3 (hotels), and 5 (offices) to be constructed using timber building solutions. New building materials options include traditional timber framing and innovative massive timber systems, such as CLT, LVL and glulam. The drivers for adopting the new building practices will be emissions reductions, cost savings and consequent potential increases in margins for developers and builders. Preliminary economic modelling indicates possible savings in the order of 10-15% in multi-residential and commercial build costs, primarily due to shorter construction times.

To realise some of the forest industry’s carbon-based emissions reduction opportunities, AFPA urges governments to:

- Implement more transparent government procurement policies and practices which take into account the high environmental and social standards of domestic suppliers, as well as the significant economic and social benefits from purchasing locally made products; and
- Develop a target for green building and wood product encouragement policies, such as the adoption of a wood encouragement policy by up to 50 local councils by 2030. Wood based products could be used in new Federal and State Government buildings, including government offices, schools, hospitals (noting the proven health benefits of utilising wood products in commercial buildings).