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The Hon Dr Steven Miles
Queensland Minister for the Environment and Heritage Protection
Parliament House QLD
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Dear Minister

Timber Queensland and Australian Forest Products Association joint submission on the Queensland Government's Discussion Paper 'Advancing Climate Action in Queensland'

We appreciate the opportunity to provide comment on the Queensland Government's Discussion Paper 'Advancing Climate Action in Queensland'.

The forest, wood and paper products industry is Australia's 6th largest manufacturing industry with an annual turnover of $20 billion. It contributes around 0.6% to Australia's gross domestic product and 6.7% of manufacturing output.

In Queensland, the forest and timber products industry has total industry sales of $3.0 billion, and directly supports more than 13,000 jobs and an additional 21,000 jobs through flow-on economic activity.

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.

Our two industry associations actively promote the important role the forest products industry can play in reducing greenhouse gas emissions and assisting ambitious national and regional level climate change policies to transition to a carbon constrained future.

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In the 'Advancing Climate Action in Queensland' Discussion Paper the Queensland Government recognises *'the need to both adapt to a changing climate and mitigate the effects of climate change through reducing greenhouse gas emissions. The government plans to explore options for climate change mitigation and support greater use of renewable energy'*. The forestry and forest products industry can play a significant positive role in both these components of climate change policy if provided supportive policy settings.

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.

The major pathways for emissions abatement from the forest products industry include:

- the carbon sequestered in growing forests;
- the carbon stored in harvested wood 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.

These emission abatement opportunities should be incorporated in future climate change policy to better capture their benefits and incentivise the providers of the emissions abatement.

Renewable energy

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. 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 behind in the use of bioenergy, which represents less than 1% of electricity

production. In Finland, bioenergy contributes 16% of renewable power. In Denmark it is 15%. In Sweden more than 7%.

Bioenergy already represents over 65% of Queensland's renewable energy output, mostly from the use of bagasse from the sugar industry. Additionally, biomass from timber processing activities such as sawdust, timber offcuts and forestry waste can also offer significant potential to further contribute to Queensland's renewable energy future. Currently, the Queensland timber industry produces a large amount of biomass from timber processing 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, are able to offer better prices for 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 timber processing sites in rural and regional areas.

Recently the Queensland Minister for Energy and Biofuels, Mark Bailey, released an Issues Paper, compiled by the Queensland Renewable Energy Expert Panel, into assessing pathways to a 50% renewable energy target for Queensland by 2030. Given such an ambitious target, it will be important to assess the greater role and potential the forest products industry could play in delivering renewable energy pathways for Queensland.

A major impediment to the general uptake of bioenergy in Australia is the sole emphasis on renewable electricity in the National Renewable Energy Target (RET). This has constrained bioenergy investment in renewable heat and cogeneration opportunities. 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.

Timber Queensland and AFPA support Commonwealth and State renewable energy policies that:

- promote 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.

Carbon storage in growing forest and in forest products

Climate change policies should recognise the full life cycle benefits from the carbon stored in trees and from harvested wood products. Adopting full life-cycle assessment principles for forest products will capture their relatively low embodied energy and recognise their substitution advantages over other materials.

It is recommended that climate change policy:

- 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;
- fully recognise the carbon stored in wood and paper products over their service life and beyond into landfill; and
- ensure building codes and energy rating schemes appropriately recognise the emissions abatement benefits from the use of wood products, particularly their low embodied energy compared to other substitute materials.

In December 2012, the Queensland Forest and Timber Industry Plan Working Group (comprising Timber Queensland, key industry stakeholders, and state government department representatives) presented the Queensland government with the Queensland Forest and Timber Industry Plan (Plan), with a focus on securing and promoting the future of the Queensland forest and timber industry. One of the Plan's objectives was to increase wood supply via the establishment of new plantations, which can also deliver significant carbon sequestration benefits.

As an example, the planting of 10,000 hectares per year of new softwood plantation over the next ten years, would capture and store an additional 15 million tonnes of carbon emissions over that period.

Policies that encourage new plantations can provide a win-win to the Queensland economy, by providing significant carbon sequestration as well as enhanced future wood supply for the timber industry.

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 in particular 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.

We recommend that the State and local governments develop and adopt similar WEPs for all housing and commercial construction developments in Queensland. A WEP generally requires responsibly 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 emissions abatement. A global study into the use of more wood and timber in building and construction has found that using wood substitutes could save between 14 to 31 per cent of global carbon emissions by using 34 or 100% of the world's sustainable wood growth[1].

A recent study in New South Wales also found that by maximising the use of timber in two popular housing designs in Sydney, approximately 30 tonnes of carbon emissions could be avoided (or saved) per house design[2]. This represented a reduction in emissions of almost 50% compared to the use of traditional building materials. These results can demonstrate the significant potential when extrapolated across total levels of housing activity. For

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[1] Oliver, C.D., Nassar, N.T., Lippke, B.R. and McCarter, J.B. 2014. Carbon, Fossil Fuel and Biodiversity Mitigation with Wood and Forests. *Journal of Sustainable Forestry* 33: 248-275.

[2] Ximenes, F.A. and Grant, T. 2013. Quantifying the greenhouse benefits of the use of wood products in two popular house designs in Sydney, Australia. *The International Journal of Life Cycle Assessment* 18: 891-908.

example, assuming half of all new residential dwellings built in Queensland were 'timber maximised' (e.g. around 20,000 dwellings) in any one year, this would equate to a saving of 600,000 tonnes per year, or 6 million tonnes over a 10-year period.

The Queensland Government is developing a strategy called '*Working together for better housing and sustainable communities*' and recently released a Strategy Discussion Paper recently for stakeholder feedback. Queensland has a significant opportunity to deliver more sustainable housing outcomes via such policies as WEPs that can lower the emissions footprint from housing and other public construction.

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.

Forest industries and climate adaption

State Governments have a major role to play in climate change adaption policy and implementation. The forestry and forest product industries are both adversely impacted by, and can play a significant positive role in, climate change adaption.

Although there are many similarities between agricultural pursuits and the forestry sector, forestry does have unique characteristics, due in part to the long timeframes between establishment and harvest. The greatest impacts of climate change on forests will be associated with a predicted hotter and drier environment, with increased risk of bushfires and cyclonic activity, greater stress on trees increasing seedling mortality, susceptibility to pest and disease incursions and decreasing productivity, and greater variability and intensity of rainfall. A changing climate imposes significant challenges and some opportunities for the forest and forest based industries in dealing with these changes.

Forestry activities can also enhance agricultural productivity through beneficial impacts on pasture, crop and animal production, primarily through provision of shade and shelter, nutrient cycling and soil conservation. Agriculture and forestry are not necessarily mutually exclusive and there exists a continuum of tree planting and forestry activities across the landscape at a range of scales and tree densities.

These activities are undertaken for a range of production and environmental purposes, such as salinity and riparian plantings through to farm woodlots and plantations used primarily for wood production.

It is for these reasons that well targeted forestry activities can be complementary to a broad range of farm level and landscape management objectives. This is particularly relevant given

current climate change impacts and previous tree clearing and land use practices that have resulted in land degradation at a range of national and regional scales, including dry land salinity, invasive weeds, soil erosion and water quality reduction.

It is well known that tree plantations yield the benefits of wood production and carbon sequestration but also provide significant other benefits such as water quality and soil conservation, salinity control, biodiversity and agricultural productivity (e.g. shade and shelter for livestock). These additional benefits are also important in the context of land management strategies to reduce soil run-off into the Great Barrier Reef.

Further queries on this submission can be directed to Timber Queensland on (07) 3358 7900 or AFPA on (02) 6285 3833.

Yours sincerely

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Timber Queensland is the collective voice of the timber industry in Queensland, representing the Queensland forest and timber products industry to Government and the wider community.

AFPA is the peak national body for Australia's forest, wood and paper products industry. The forest product industry directly supports around 120,000 jobs across the whole value chain and an additional 180,000 jobs through flow-on economic activity.