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Energy Security Board  
National Energy Guarantee – Consultation paper  
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**AFPA submission to the Energy Security Board National Energy Guarantee - Consultation Paper (NEG Review).**

The Australian Forest Products Association (AFPA) welcomes the opportunity to provide a submission to the Energy Security Board National Energy Guarantee - Consultation Paper (NEG Review).

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

**AFPA congratulates Minister the Hon Josh Frydenberg MP and the Turnbull Government for progressing the National Energy Guarantee (NEG). A well designed NEG is Australia's best plan yet to balance the key objectives of energy affordability, energy reliability, and the transition to a renewable energy and lower carbon future, in line with Australia's international climate change commitments.**

**In the attached submission AFPA addresses:** *forests industries and climate change/energy/industry policy; climate change policy principles; EITE exemption/transition; international credits; energy infrastructure; and recognition of bioenergy, renewable heat and co-firing opportunities under the NEG.*

**1. Forest product industries and climate change/energy/industry policy**

The forest products industry is Australia's 6th largest manufacturing industry with an annual turnover over \$23 billion. It contributes around 0.5% to Australia's gross domestic product and 6.6% of manufacturing output.

Trees are a sustainable biological resource that produce renewable and innovative wood, paper and bioproducts, including bioenergy, biomaterials and biochemicals. They also provide a range of important environmental and social benefits, such as 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 and transport.

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 increasingly 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.

The significant potential for the 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 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 renewable heat and biofuels), thereby displacing fossil fuels.

Australia's forest products industry is facing an energy crisis of rapidly increasing costs yet could still make a significant contribution to delivering secure, reliable and affordable energy and lower emissions, through the recognition of the huge potential of renewable bioenergy and renewable heat energy. It would also help sustain existing manufacturing operations, providing much needed regional investment and jobs.

Investing in bioenergy can significantly contribute to both guarantees under the NEG. Bioenergy is a unique renewable source that can be used across all three energy sectors (transport, heat and electricity). Bioenergy can be both dispatchable and deliver baseload power 24 hours a day, 7 days a week. Biomass waste and residues can partially substitute for coal in coal fired power station units. Bioenergy is well suited to powering many existing regional manufacturers and communities. Bioenergy assets located in those communities will reduce transmission losses and distribution costs.

## 2. The National Energy Guarantee (NEG)

The proposed NEG will be made up of two parts that will place requirements on energy retailers across the National Electricity Market (NEM): a **reliability guarantee** to ensure that energy is always available; and an **emissions guarantee** to contribute to Australia's international emissions reduction commitments.

A well designed NEG is Australia's best plan yet to balance the key objectives of energy affordability, energy reliability and the transition to a renewable energy and lower carbon future, in line with Australia's international climate change commitments.

AFPA appreciates the main purpose of the NEG is to give certainty to investors and encourage investment in all forms of energy generation with the intent to secure an affordable, reliable and environmentally responsible energy sector.

## 3. Climate change policy principles

In a perfect market, a price (or cost) on carbon emissions should encourage substitution for low emissions products such as wood, paper, bio-products and renewable energy. However, the design of climate change policies can be difficult given the existence of 'imperfect markets' with carbon leakage – that is, a decrease in domestic competitiveness, and an increase in imports and emissions from overseas products without a comparable carbon cost.

Climate change policies with their associated costs and/or incentives must be complementary and not overlap. Rationalisation and complementarity of, and equity between, existing National and State government policies (i.e. between States and between State and Federal) must also be addressed when any new policy or policy reforms are considered.

*AFPA supports climate change policy mechanisms, whether a voluntary auction system such as the ERF, or alternative mechanisms such as an Emissions Trading Scheme (ETS), so long as the following broad policy principles are adopted:*

- *a consultative approach is adopted to the development of new policies;*
- *there is full market recognition of the multiple emission abatement benefits from carbon sequestration, carbon storage and product substitution from the forest products value chain;*
- *priority is given to addressing the lack of methodologies for forest plantations and naturally regenerating 'working forests' and their resulting products in the CFI or equivalent land sector crediting mechanism;*
- *the design of any mechanism should:*
  - *be consistent with the strategic national approach;*

- *ensure and maintain the international competitiveness of Australian export and import competing industries (i.e. emissions-intensive and trade-exposed (EITE) industries);*
- *ensure that the burden of emissions reductions is borne equitably across the economy;*
- *be underpinned by streamlined, efficient and effective administrative, reporting and compliance arrangements;*
- *deal responsibly with the adverse cost impacts on domestic producers pending a comparable carbon cost on competing imports (i.e. there needs to be commensurate carbon policies from overseas competitors);*
- *ensure that there is appropriate transitional assistance for emissions-intensive, trade-exposed sectors pending a comparable carbon cost on imports;*
- *establish stable and long-term climate policy settings to provide greater investment certainty; and*
- *cap the use of international credits to allow for a reasonable balance between promoting domestic abatement and mitigation and minimising overall carbon costs.*

#### **4. Emissions Intensive and Trade Exposed (EITE) Industry Transition and Exemptions**

Previous energy policy reform has focused on electricity generators and distributors with little regard for energy users. *More balanced policy requires both sides of the energy market to be given equal consideration.*

AFPA includes member organisations that are both emissions-intensive and trade-exposed (EITE) including: pulp and paper and engineered wood products (e.g. medium density fibreboard producers). In a global market, where many of our international trade competitors are either not subject to a carbon price or are in a slow transition towards a carbon price, effective transition and exemption from relevant climate change policy costs is critical to the ongoing viability of these sectors in Australia.

Taking measures to safeguard Australia's industries trade competitiveness will be essential to ensure Australia is successful in reducing emissions, rather than simply transferring them offshore. The current policy model for EITE exemption applied under the existing Renewable Energy Target (RET) can achieve this for the NEG by providing EITE entities with a framework to address the direct impact of price increases associated with the emissions element of the NEG. Although, it is noted that companies are still likely to be subject to the indirect cost impact.

*The design of the NEG should:*

- *ensure and maintain the international competitiveness of Australian export and import competing industries (i.e. emissions-intensive and trade-exposed (EITE) industries);*
- *ensure that the burden of emissions reductions is borne equitably across the economy;*

- *be underpinned by streamlined, efficient and effective administrative, reporting and compliance arrangements;*
- *deal responsibly with the adverse cost impacts on domestic producers pending a comparable carbon cost on competing imports (i.e. there needs to be commensurate carbon policies from overseas competitors); and*
- *ensure that there is appropriate transitional assistance for emissions-trade-exposed sectors pending a comparable carbon cost on imports.*

## **5. International Credits**

Following the Paris Agreement, the rules for trading international credits after 2020 are yet to be finalised – these discussions continue. It is important to alleviate cost pressures on domestic industry while at the same time providing incentives for domestic action. Renewable forest product industries in Australia have significant potential to store carbon and reduce emissions.

If Australia is to remain competitive in international markets, it is important that policies do not disadvantage domestic wood and paper product manufacturing operations by subjecting these trade-exposed industries to costs not faced by competitors in other countries. Additionally, for domestic manufacturing facilities to plan investments and fully understand the net cost of abatement today and into the future, policy settings need to be stable and the price of credits needs to be relatively predictable over the long term.

*AFPA urges the Government and policy makers:*

- *to continue its active participation in international discussions on trading credible and high-quality credits under Article 6 of the Paris Agreement with an Australian industry focus; and*
- *that there should be an appropriate focus on domestic credits (including a cap on credible and high quality international credits) to allow for a reasonable balance between promoting domestic abatement and investment, and minimising overall carbon costs to industry.*

## **6. Energy infrastructure**

Significant energy infrastructure investment (in both renewable and other generation capacity, and transmission and distribution network infrastructure) has occurred over the past decade to deliver ‘accessible and reliable’ energy to Australia.

*AFPA urges Government to consider reform of the existing rules and policies to ensure that network investment is prudent, necessary and tightly controlled, and that the costs of the investments are transparent, justified and affordable. This is particularly important with energy demand growth slowing and the continuing introduction of distributed generation and storage.*

## 7. Bioenergy

Bioenergy is a unique renewable source that is also reliable and can be used across all three energy sectors (transport, heat and electricity). Bioenergy can be both dispatchable and deliver baseload power 24 hours a day, 7 days a week. Biomass waste and residues can partially substitute for coal in coal fired power station units. Bioenergy is well suited to powering many existing rural and regional manufacturers and communities. Bioenergy assets located in those communities will reduce transmission losses and distribution costs.

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 its use of bioenergy, which represents less than 1% of Australian 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 truly offer significant potential to contribute to Australia's renewable energy future. Currently, Australia's forest products industry produces a large amount of sustainable biomass from timber processing and paper manufacturing operations. However, only a small amount 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.

Bioenergy produced from sustainable biomass is renewable. Under the Kyoto Protocol, bioenergy is regarded as CO<sub>2</sub> 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 CEFC recognises the significant potential for bioenergy to contribute to renewable energy, biofuels and carbon emissions, creating the \$100 million Australian Bioenergy Fund<sup>1</sup> to invest in bioenergy and waste to energy projects. As at June 2015, the Australian Renewable Energy Agency (ARENA)<sup>2</sup> had also invested over \$7.6 million in bioenergy projects and wants to invest more in this renewable energy source.

Some of the challenges that bioenergy is facing in Australia and need to be addressed include:

- bioenergy projects can be complex, financially demanding, and can utilise a variety of paths and technologies.
- some of the technologies and processes are still relatively young techniques and there is an absence of supporting mechanisms.
- bioenergy is a young player in a broad and well-established energy industry and requires enhanced visibility and better understanding by government, industry, developers and the community.

## **8. Bioenergy advantages and microgrids**

In the electricity sector, bioenergy offers both baseload and dispatchable power generation using high inertia synchronous generators with obvious benefits for managing the wider electricity system. In the heat sector, bioenergy allows the generation of both high grade and low grade (in the case of cogeneration) heat that cannot be easily achieved through other low carbon sources. In transport applications, bioenergy offers opportunities for decarbonising areas such as aviation and heavy good vehicles.

The coupling of microgrid technology and renewable bioenergy, especially associated with regionally based wood and paper product processing facilities is also worthy of consideration in the development of a more flexible and reliable national electricity market blueprint, as they integrate well with renewable energy sources such as combined heat and power (CHP) systems.

While it may make sense for some industrial facilities and even towns at the edge of the grid to become self-sufficient and disconnect entirely, it is suggested that micro-grids could also remain connected to the existing network, helping to reshape a more centralised grid to one that incorporates decentralised renewable power generation sources and storage. Biomass can also replace diesel-based generation in many micro-grid situations (unlike intermittent renewables). Diesel, like gas, is expensive (increasingly so) and adds to atmospheric carbon.

Any new energy policy and network rule reform associated with fostering microgrid development needs to be flexible enough that micro grids can cost effectively utilise existing

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<sup>1</sup> [https://www.cleanenergyfinancecorp.com.au/media/158193/cefc-factsheet\\_australian-bioenergy-fund\\_lr.pdf](https://www.cleanenergyfinancecorp.com.au/media/158193/cefc-factsheet_australian-bioenergy-fund_lr.pdf)

<sup>2</sup> <https://arena.gov.au/funding/investment-focus-areas/bioenergy/>

network assets or invest in new assets that can be easily bolted onto the existing network infrastructure.

## **9. Renewable Heat**

The design of the NEG should recognise renewable heat. Another major impediment to the general uptake of bioenergy in Australia has been the sole emphasis on renewable electricity rather than energy (including renewable heat) in previous climate change/energy policies - such as the Renewable Energy Target (RET). This has constrained bioenergy investment in renewable heat and cogeneration opportunities. If the RET offered a carbon price for renewable electricity **and** renewable heat it would incentivise companies to undertake bioenergy projects. 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 renewable heat 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 and investment facilitation 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. Further initiatives that incentivise investment in renewable heat generation are essential to enable our manufacturing industry members to convert away from crippling energy cost increases and grasp the opportunities in the emerging bio-economy. Additionally, it will release significant volumes of gas back into the pipeline transmission network reducing pressure on gas demand and supply in eastern Australia.

## **10. Cofiring renewable biomass**

Worldwide, combustion already provides over 90% of the renewable energy generated from sustainable biomass<sup>3</sup>. Combustion technologies are commercially available and can be integrated with existing infrastructure. One useful example in an Australian context is 'cofiring' sustainable biomass in existing coal-fired energy generators. Bioenergy generation can be both dispatchable and baseload. Cofiring with sustainable biomass has the potential to significantly reduce the carbon footprint of these non-renewable electricity generators while supporting baseload and dispatchable generation, regional employment and communities.

IEA Bioenergy concluded on cofiring that:

- Cofiring has been demonstrated successfully in over 150 installations worldwide for most combinations of fuels and boiler types.
- Cofiring offers among the highest electrical conversion efficiencies of any biomass power option.

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<sup>3</sup> IEA Bioenergy Task 32. <http://www.ieabcc.nl/>



- Cofiring biomass residues in existing coal-fired boilers is among the lowest cost biomass power production options.
- Well-managed cofiring projects involve low technical risk.
- In addition to mitigation of CO<sub>2</sub> emission, cofiring biomass in existing coal-fired boilers usually also leads to reduced emissions of NO<sub>x</sub>, SO<sub>2</sub> and other flue gas components.

A recent example of conversion from coal to bioenergy of large scale existing power plants has occurred in Canadian towns of Atikokan (2014) and Thunder Bay<sup>4</sup>. These two towns were identified by Ontario Power Generation (OPG) as strong candidates for conversion to bioenergy. A 2010 study commissioned by OPG and conducted by the Pembina Institute further reinforced the concept, identifying the conversions as both economically and socially viable. The study found the conversions would create 130 jobs in the forestry and pellet production sectors, and that burning wood-based biomass fuel would produce 80 per cent fewer greenhouse gas emissions than natural gas generation.

The intent of the NEG is to be technology-neutral to incentivise a broader range of lower emissions generation technologies. *The design of the NEG should recognise bioenergy and renewable heat, to capitalise on significant emission reductions, underpin new industry investment, and support regional jobs.*

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Yours Sincerely

Ross Hampton  
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<sup>4</sup> <http://www.opg.com/about/environment/documents/opgbiomassconversion.pdf>